City of Manistee

2013 Street Asset Management Plan

Outline

- Review of City's Program
- What is Street Asset Management
- What has been Accomplished
- Current Condition of Streets
- How do other Communities Fund Streets
- What Level of Investment is Needed
- Process Moving Forward

Major Streets
18.4 Miles

Local Streets
29.4 Miles

Review of Asset Mgt. Program

- Education & Training
  - Staff attended 2007 & 2008 Asset Management Conferences
  - Staff attended 2008 Asphalt Seminar
  - Staff attended PASER Training Sessions
  - Hosted Introduction to Asset Management seminar at City Hall for elected officials
    - Invited officials from other road agencies

Introduction to

Transportation Asset Management




A Workshop for Elected Officials

City of Manistee

Thursday, January 10, 2008

Manistee City Hall

ASSET MANAGEMENT
MICHIGAN ASSET MANAGEMENT COUNCIL

Michigan's Local Technical Assistance Program

Review of Asset Mgt. Program

- Plan Discussion, Adoption & Awards
  - Staff presented report on plan progress Mar 2008
  - Staff presented at MML Reg 6 mtg May 2008
  - Council worksession discussion on plan Jun 2008
  - Council approves plan & work candidates Aug 2008
  - City presents at 2009 Michigan Transportation Asset Mgt. Conference May 2009
  - City receives 2009 TAMC Organization Award May 2009
  - City cited as example in award-winning LTAP paper published in 2009 by TRB
  - Presented at APWA Conference Nov 2012

Michigan Transportation Asset Management Conference

Asset Management – Putting practice on the pavement with treatments, strategies and practices

May 19, 2009
Kellogg Hotel &
Conference Center
East Lansing, Michigan

POSTPONED
Upfront & Company
Marquette, Michigan

Sponsored by

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

Review of Asset Mgt. Program

- Projects
  - Hot-In-Place + Overlay 2009
  - 12th St. End 2009
  - Harbor Drive 2009
  - 12th Street Glens 2010
  - Crack sealing 2011, 2012
  - Jones Street Sewer Separation 2010
  - Glocheski & Veterans Oak Grove (Cat A) 2010
  - Truck Route (Vine, 13th, Main) (Cat F) 2010
  - Cedar Street Sewer Separation 2011
  - Cedar Street Orphan Streets 2011
  - First Street 2011
  - Spruce Street Hill (2nd to 4th) 2011
  - Monroe Street 2011
  - Kosciusko Street (Small Urban) 2013

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What is Asset Management?

“An ongoing process of maintaining, upgrading, and operating physical assets cost effectively, based on a continuous physical inventory and condition assessment”

Source: Act 499 of the Public Acts of 2002.

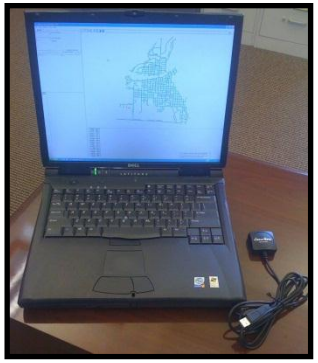
Translation: Taking care of what you’ve got

Manistee
Asset Management Process

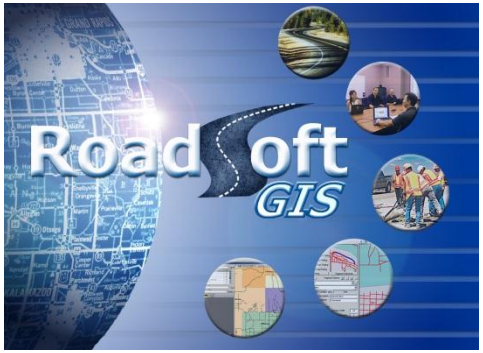
1. Assess Current Condition (PASER)
2. Select Appropriate Treatments
3. Estimate Treatment Costs & Budget Constraints
4. Predict Future Condition of Street Network
5. Establish Street Network Goals & Performance Measures
6. Evaluate Impact of Various Treatment Alternatives
7. Identify, Prioritize & Select Projects

Assess Current Condition

- PASER rating system
- PAvement Surface Evaluation and Rating
- Professionally rated in May 2007
- DPW crew has rated each year since
- Use Roadsoft & Laptop Data Collector



Michigan
Local Technical
Assistance Program



Pavement Surface Evaluation and Rating

PASER Manual

Asphalt Roads

Transportation Information Center
University of Wisconsin–Madison

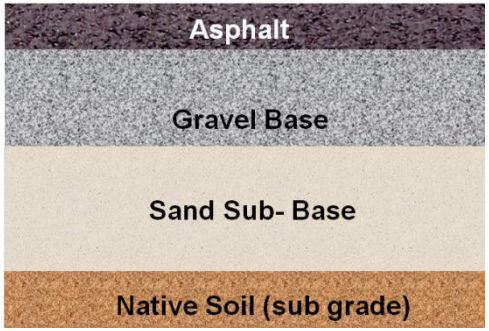
Rating system

Surface rating	Visible distress*	General condition/ treatment measures
10 Excellent	None.	New construction.
9 Excellent	None.	Recent overlay. Like new.
8 Very Good	No longitudinal cracks except reflection of paving joints. Occasional transverse cracks, widely spaced (40' or greater). All cracks sealed or tight (open less than ¼").	Recent sealcoat or new cold mix. Little or no maintenance required.
7 Good	Very slight or no raveling, surface shows some traffic wear. Longitudinal cracks (open ¼") due to reflection or paving joints. Transverse cracks (open ¼") spaced 10' or more apart, little or slight crack raveling. No patching or very few patches in excellent condition.	First signs of aging. Maintain with routine crack filling.
6 Good	Slight raveling (loss of fines) and traffic wear. Longitudinal cracks (open ¼"–½"), some spaced less than 10'. First sign of block cracking. Sight to moderate flushing or polishing. Occasional patching in good condition.	Shows signs of aging. Sound structural condition. Could extend life with sealcoat.
5 Fair	Moderate to severe raveling (loss of fine and coarse aggregate). Longitudinal and transverse cracks (open ½") show first signs of slight raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Surface aging. Sound structural condition. Needs sealcoat or thin non-structural overlay (less than 2")
4 Fair	Severe surface raveling. Multiple longitudinal and transverse cracking with slight raveling. Longitudinal cracking in wheel path. Block cracking (over 50% of surface). Patching in fair condition. Slight rutting or distortions (½" deep or less).	Significant aging and first signs of need for strengthening. Would benefit from a structural overlay (2" or more).
3 Poor	Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion. Severe block cracking. Some alligator cracking (less than 25% of surface). Patches in fair to poor condition. Moderate rutting or distortion (1" or 2" deep). Occasional potholes.	Needs patching and repair prior to major overlay. Milling and removal of deterioration extends the life of overlay.
2 Very Poor	Alligator cracking (over 25% of surface). Severe distortions (over 2" deep) Extensive patching in poor condition. Potholes.	Severe deterioration. Needs reconstruction with extensive base repair. Pulverization of old pavement is effective.
1 Failed	Severe distress with extensive loss of surface integrity.	Failed. Needs total reconstruction.

** Individual pavements will not have all of the types of distress listed for any particular rating. They may have only one or two types.*

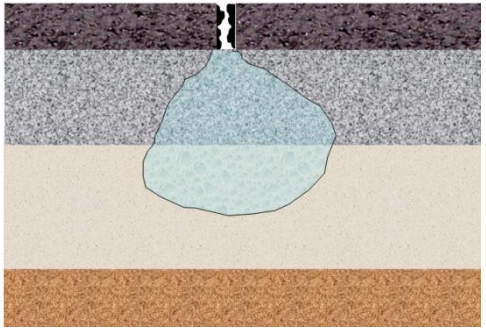
What Destroys Asphalt? Water!

Typical Pavement Layers

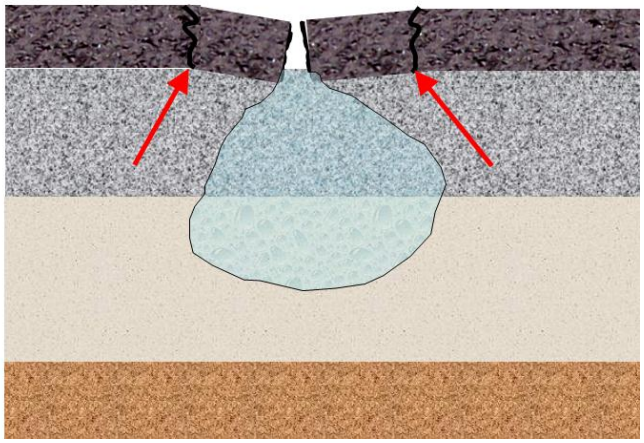


First Distress

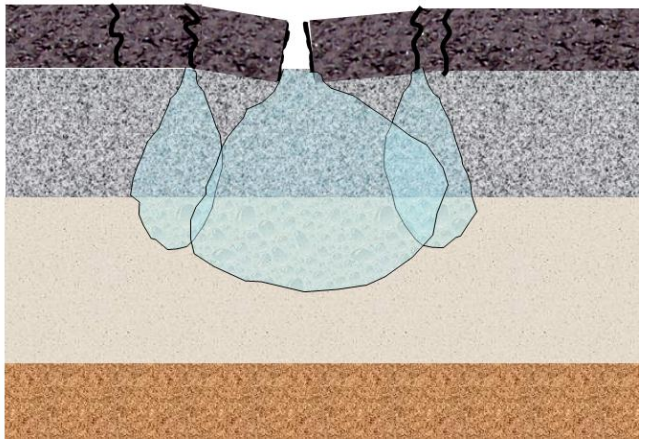
Water Intrusion



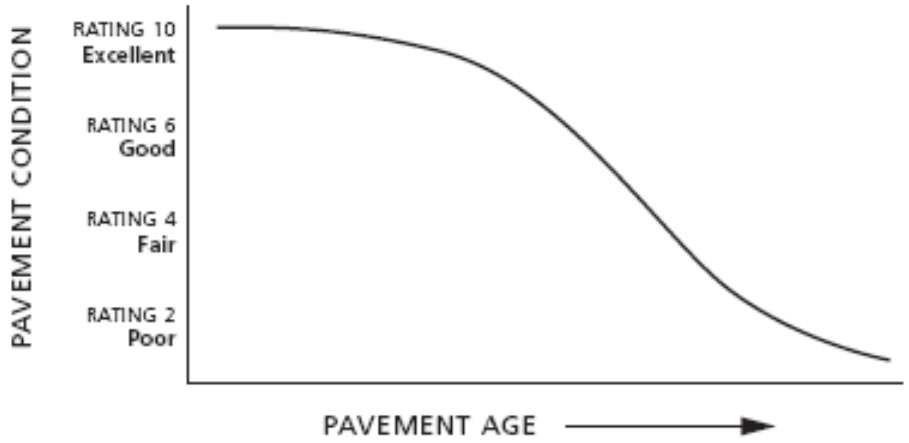
Base Weakening & Loss of Support



Distress Propagation



How Pavement Ages



In addition to indicating the surface condition of a road, a given rating also includes a recommendation for needed maintenance or repair. This feature of the rating system facilitates its use and enhances its value as a tool in ongoing road maintenance.

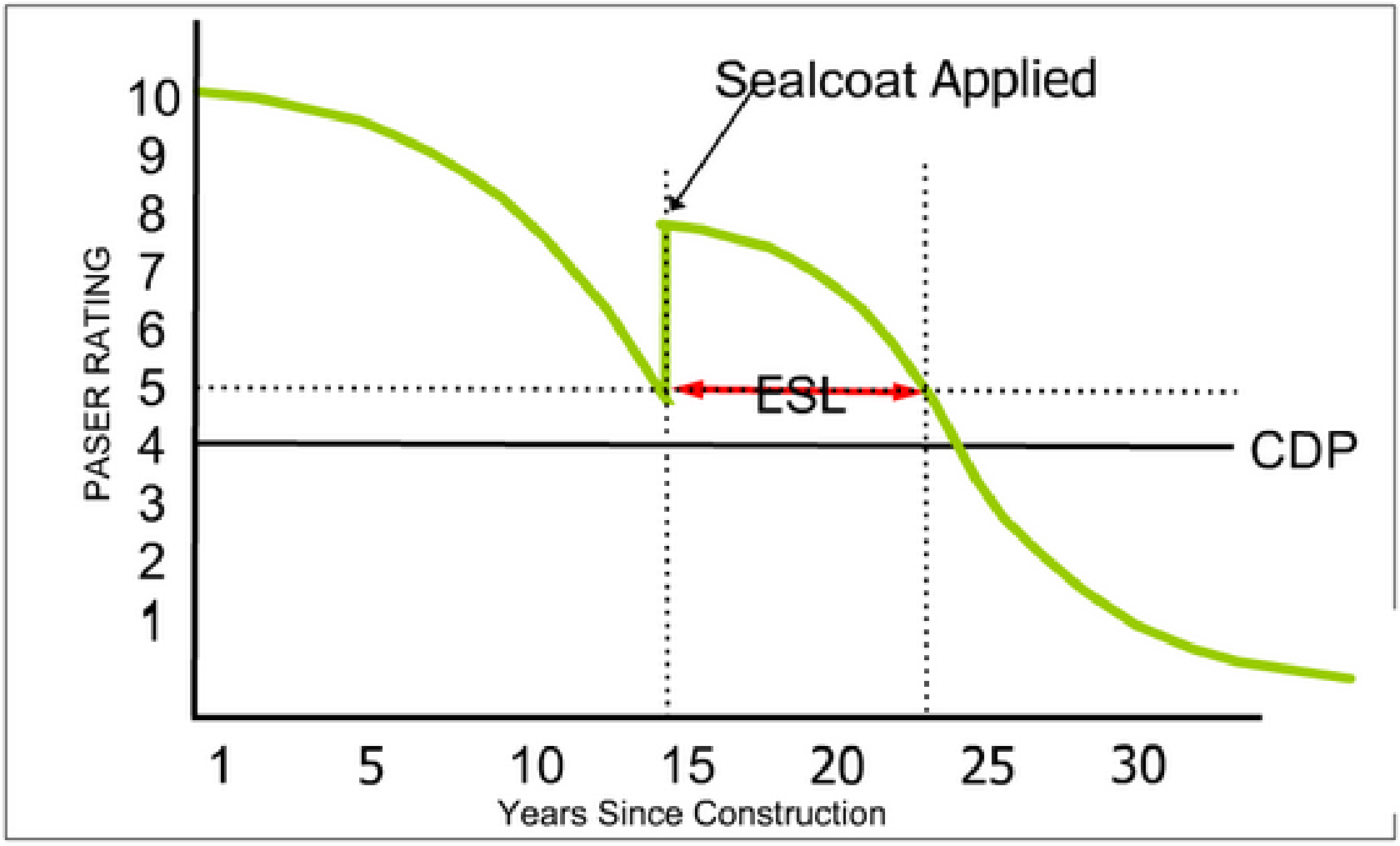
RATINGS ARE RELATED TO NEEDED MAINTENANCE OR REPAIR

Rating 9 & 10	No maintenance required
Rating 8	Little or no maintenance
Rating 7	Routine maintenance, cracksealing and minor patching
Rating 5 & 6	Preservative treatments (sealcoating)
Rating 3 & 4	Structural improvement and leveling (overlay or recycling)
Rating 1 & 2	Reconstruction

Key Pavement Management Terms

- CDP - Critical Distress Point
  - The CDP is the point where the pavement distress changes from needing preventive maintenance to needing structural improvement.
- RSL - Remaining Service Life
  - RSL is the time in years from the present where the pavement reaches the point where distresses are structural in nature (CDP) and preventive maintenance treatments are no longer beneficial.
- ESL – Extended Service Life
  - ESL is the time in years added to the current RSL based on the type of fix used. It does not represent the longevity of the treatment

Pavement Deterioration Curve



Manistee
Asset Management Process

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Select Appropriate Treatments

- Wide variety of treatments available
- Some work better in urban settings
- Preventative Maintenance
- Heavy Maintenance
- Light Rehabilitation
- Heavy Rehabilitation
- Reconstruction

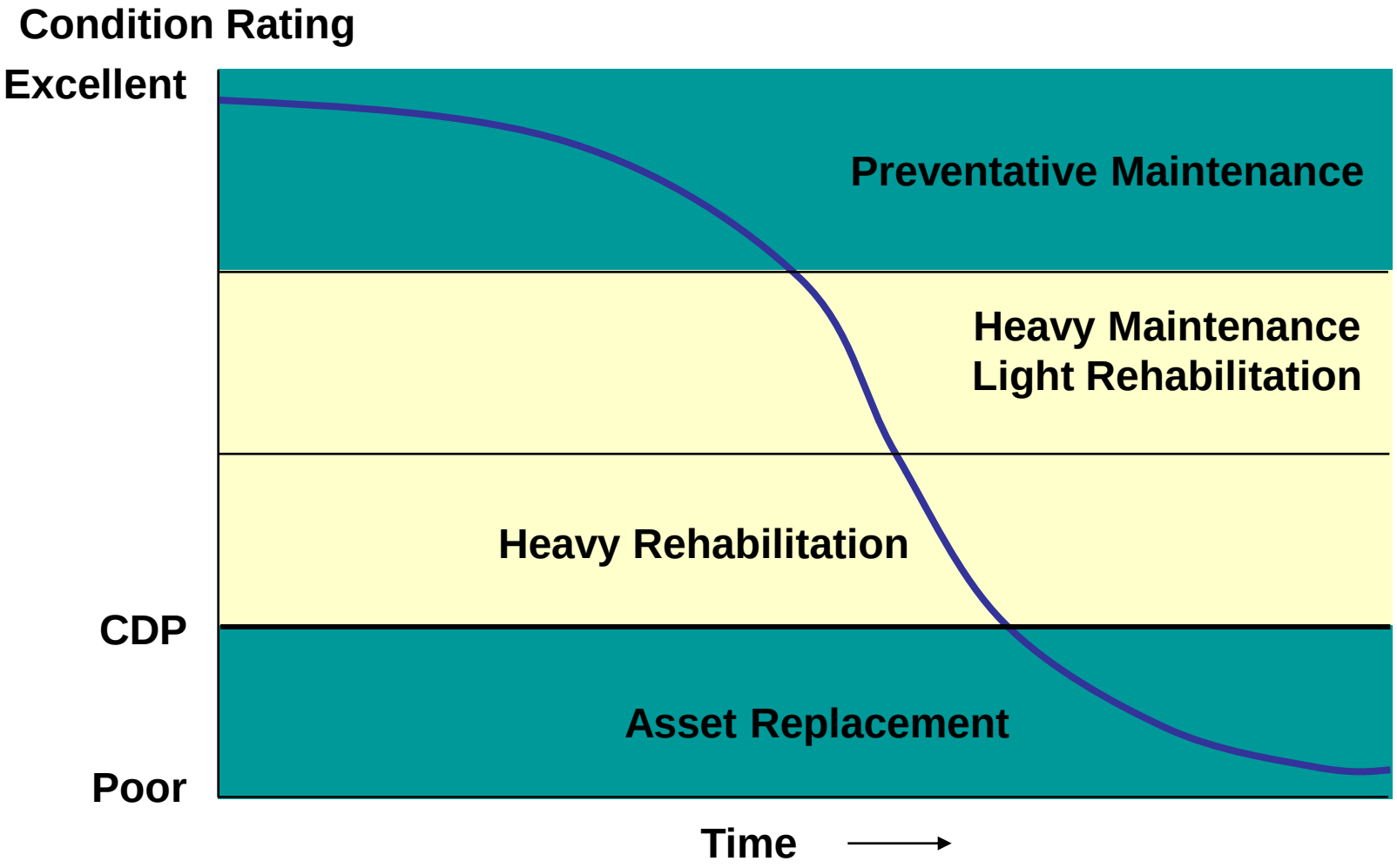
The Key to Asset Management?

The Right Fix,

At the Right Time,

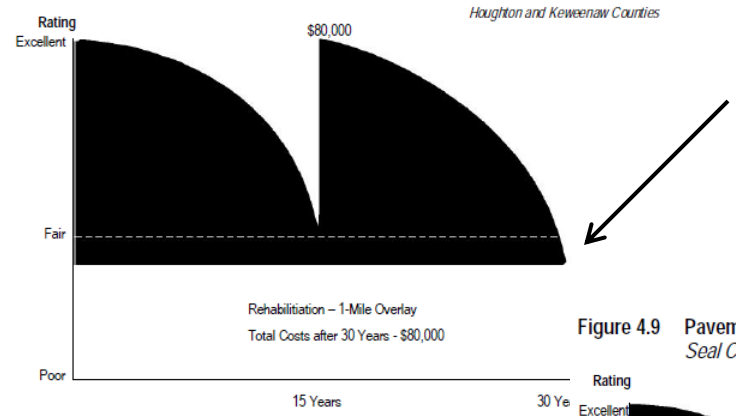
In the Right Place.

Window of Opportunity



Example of Asset Management

Figure 4.8 Pavement Strategy 1
Overlay Every 15 Years

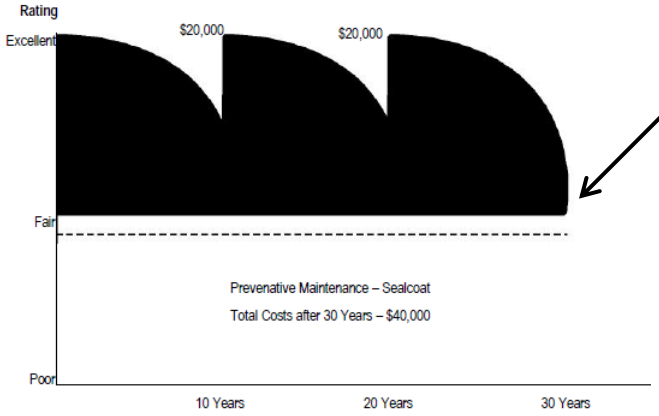


$80,000
Less than Fair

Asset Management:

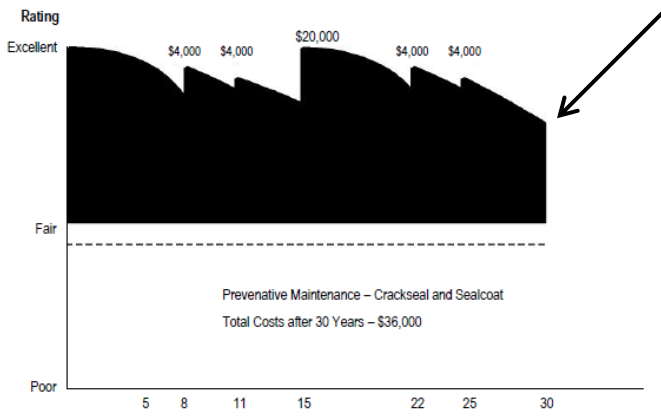
- Lower Cost
- Better Condition

Figure 4.9 Pavement Strategy 2
Seal Coat Every 10 Years



$40,000
Slightly Better
than Fair

Figure 4.10 Pavement Strategy 3
Mix of Fixes



$36,000
Nearly Good

PASER Ratings

Routine & Preventative Maintenance
PASER 8, 9, 10 = Roadsoft GOOD

- Plowing
- Salting
- Sweeping
- Clean Catch Basin
- Seal Cracks (8)

Solutions — Crack Seal

Solutions — Crack Seal

- Fills crack with asphalt sealant
- Seals pavement from water and debris
- Lasts 1 to 2 years
- Used for discrete cracks under ¾” wide

PASER Ratings

Capital Preventive Maintenance
PASER 5, 6, 7 = Roadsoft FAIR

- Seal Cracks (7)
- Micro Surfacing (6)
- Slurry Seal (6)
- Thin Overlay (5)

Solutions —
Slurry Seal & Micro-surface

Solutions — Slurry Seal

- Asphalt emulsion, fine aggregate and portland cement
- Seals pavement from water and debris
- Seals small cracks
- Requires heat to set
- Lasts 4 to 6 years

Solutions — Micro Surfacing

- Polymer modified asphalt emulsion, aggregate and portland cement
- Seals pavement from water and debris
- Fills ruts, corrects pavement slope
- Chemical set process
- Can last 6-8 years

Solutions — Ultrathin Overlay

Solutions — Ultrathin Overlay

- Hotmix asphalt layer ¾” to 1-½” thick
- Can be used by itself or in conjunction with milling
- Can correct surface imperfections
- Increases surface friction
- Lasts 7 to 10 years or more (many variables)

PASER Ratings

Structural Improvement
PASER 1, 2, 3, 4 = Roadsoft Poor

- Overlay >2” (4)
- Mill & Fill (3-4)
- Asphalt Recycling Cold or Hot (3-4)
- Crush & Shape (2-3)
- Reconstruct (1-2)

Solutions — Structural Overlay

Solutions — Structural Overlay

- Hotmix asphalt layer 2” to 4” thick
- Can be use in conjunction with milling
- Adds substantial structural strength
- Can be used with fibermesh
- Increases surface friction
- Lasts 10 to 15 years or more (many variables)

Solutions – Mill & Fill

Solutions – Mill & Fill

- Cold mill top layer of asphalt
- Replace asphalt with one or more layers
- Adds substantial structural strength
- Can be used with fibermesh
- Increases surface friction
- Lasts 8 to 13 years or more (many variables)

Solutions — Asphalt Recycling

Solutions — Asphalt Recycling

- Cold or Hot in Place asphalt recycling
- Mill, mixes additional materials and binder and re-lays existing asphalt with varying degrees of heat.
- Needs to be topped with overlay or microsurface
- Rejuvinates and seals asphalt
- Lasts 7 to 12 years or more (many variables)

Solutions — Crush and Shape

Solutions — Crush and Shape

- Pulverize distressed asphalt surface and mix with base
- Can correct profile imperfections
- Can add structure to pavement
- Primarily for roads with no curbs
- Close to a reconstructed pavement
- Lasts 10 to 15 years (many variables)

Solutions — Reconstruction

Solutions — Reconstruction

- Removing pavement to base or sub base
- Rebuild base on up
- Opportunity to correct geometric problems
- Utilities should be upgraded
- Most costly option
- Lasts 15 to 20 years (many variables)

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Estimated Treatment Costs*

Treatment	Category	PASER Rating Trigger	Cost Per Lane Mile	Cost Per Block (Two Lanes) (660')	Additional Service Life (in years)	Cost Per Year of of Service Life
Crack Sealing	CPM	7-8	$3,000	$750	1	$3,000
Slurry Sealing	CPM	6	$16,000	$4,000	4-6	$3,200
Micro Surfacing	CPM	6	$21,000	$5,250	6-8	$3,500
Ultra Thin Overlay	CPM	5	$24,000	$6,000	7-10	$2,667
Fiber Mesh + Micro	CPM	4-5	$48,000	$12,000	7-10	$5,333
Hot-In-Place + Overlay	RH	3-4	$76,000	$19,000	8-12	$7,600
Cold-In-Place + Overlay	RH	3-4	$127,000	$31,750	8-12	$12,700
Mill & Fill 3"	RH	2-4	$104,000	$26,000	8-13	$10,400
Reconstruction	RC	1-3	$455,000	$113,750	15-18	$35,000

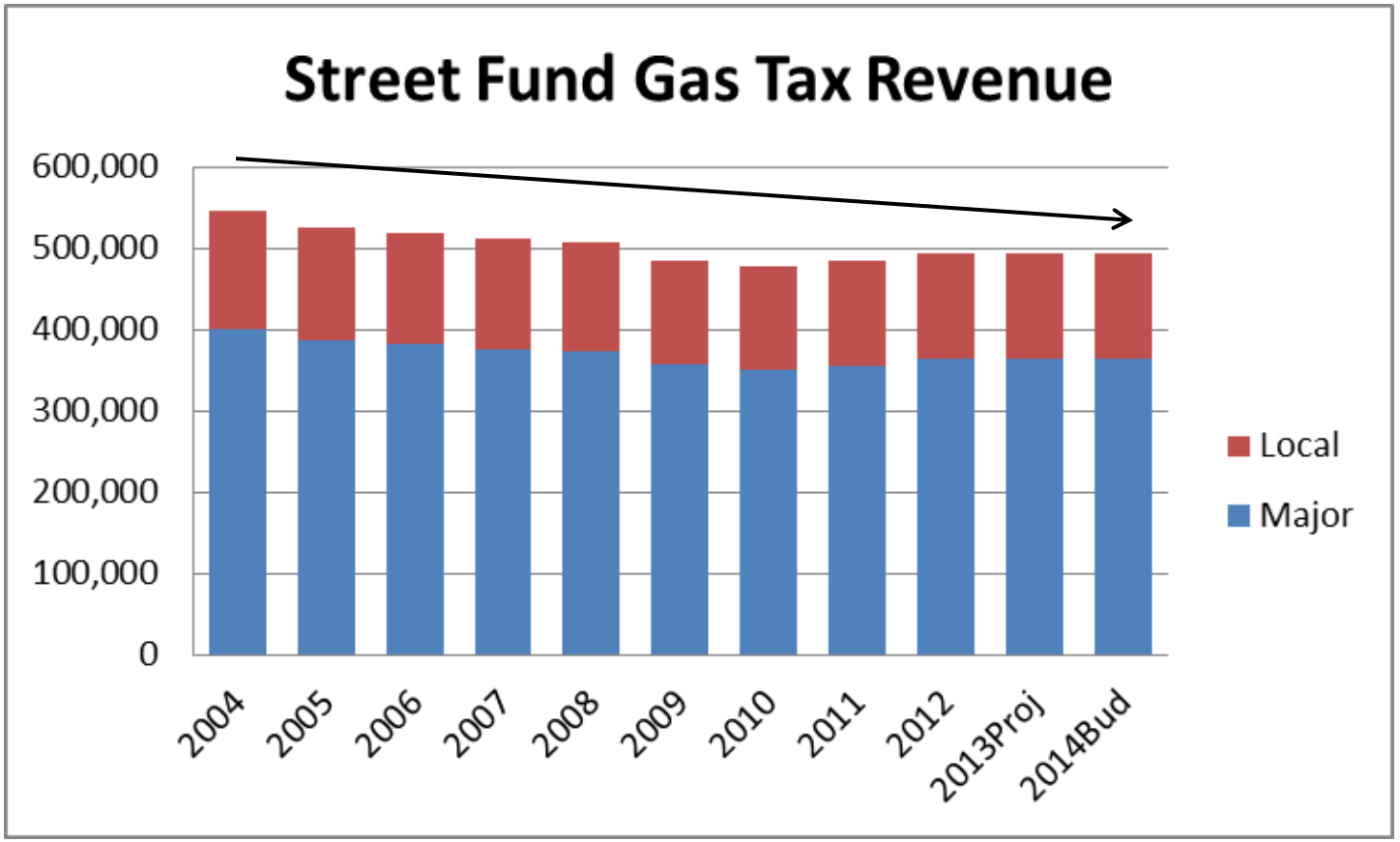
*excludes engineering

Budget Constraints

- Street maintenance is “challenging”
- High Treatment Cost + Inadequate State Funding
- Lansing’s inability to reach funding consensus
- Some additional flexibility with approved asset management plan
  - Can transfer more that 50% of Major Street funding to local street if conditions are met
  - Money has to be available in order to be transferred
  - Must certify we are adequately maintaining Major Streets

Budget Constraints

- Gas tax revenue down 9.4% or $50,000 since 2004



Budget Constraints

- Major Street Fund 2013/2014

Revenues	**$552,100**
Routine Maintenance	$289,000
Debt Service	$140,628
Local Street Debt	$80,629
Expenses	**$510,257**
Surplus	**$41,843**

- $140,000 annual debt rolls off in FY 2015-2016
- 10 year projection has deficits in years 5-10
- Structural changes will be needed

Budget Constraints

- Local Street Fund 2013/2014

Revenues	**$215,679**
Routine Maintenance	$137,750
Debt Service	$80,629
Expenses	**$218,379**
Surplus\(Deficit)	**($2,700)**

- $80,000 annual debt rolls off in FY 2030-2031
- 10 year projection has deficits every year
- Structural changes will be needed

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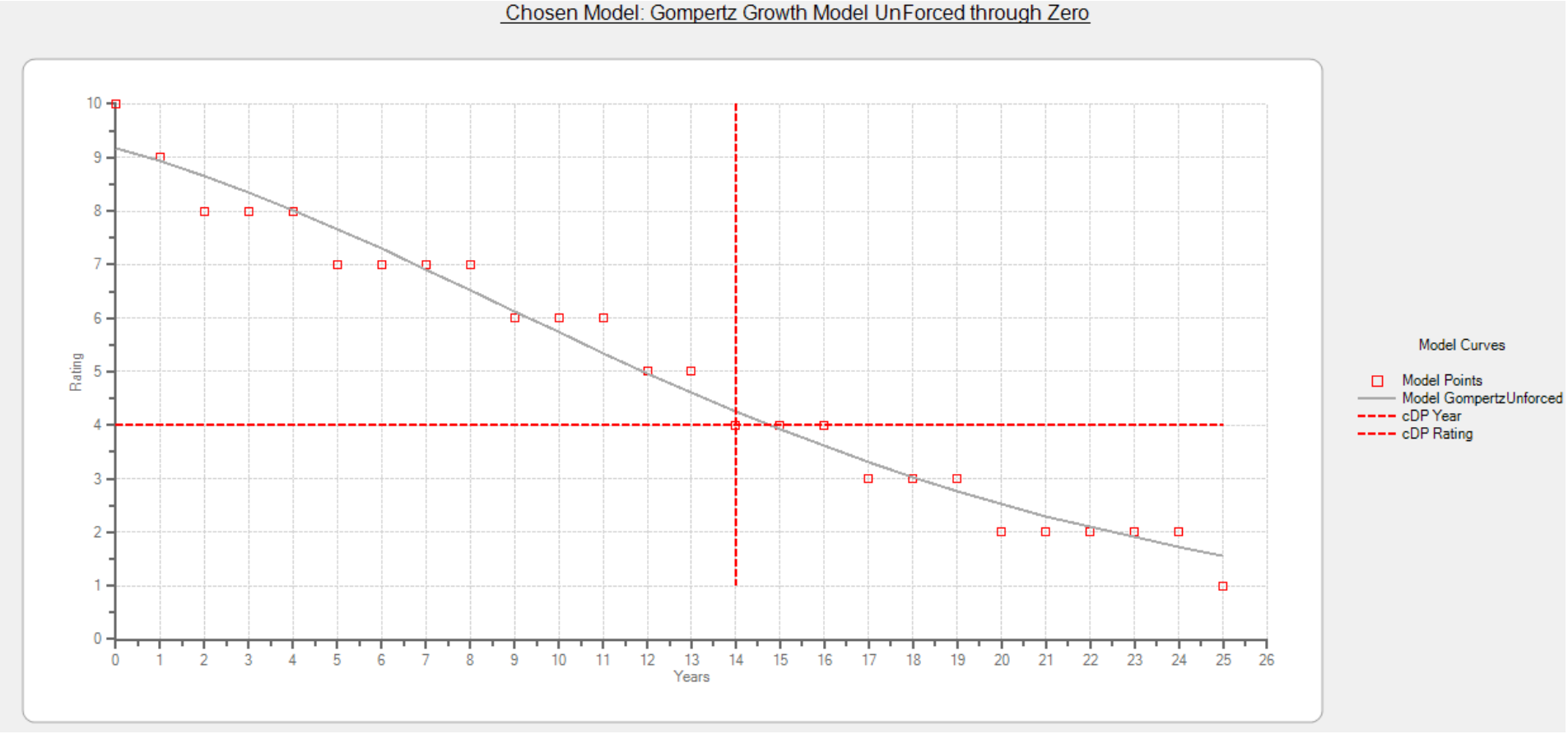
Predict Future Condition of Streets

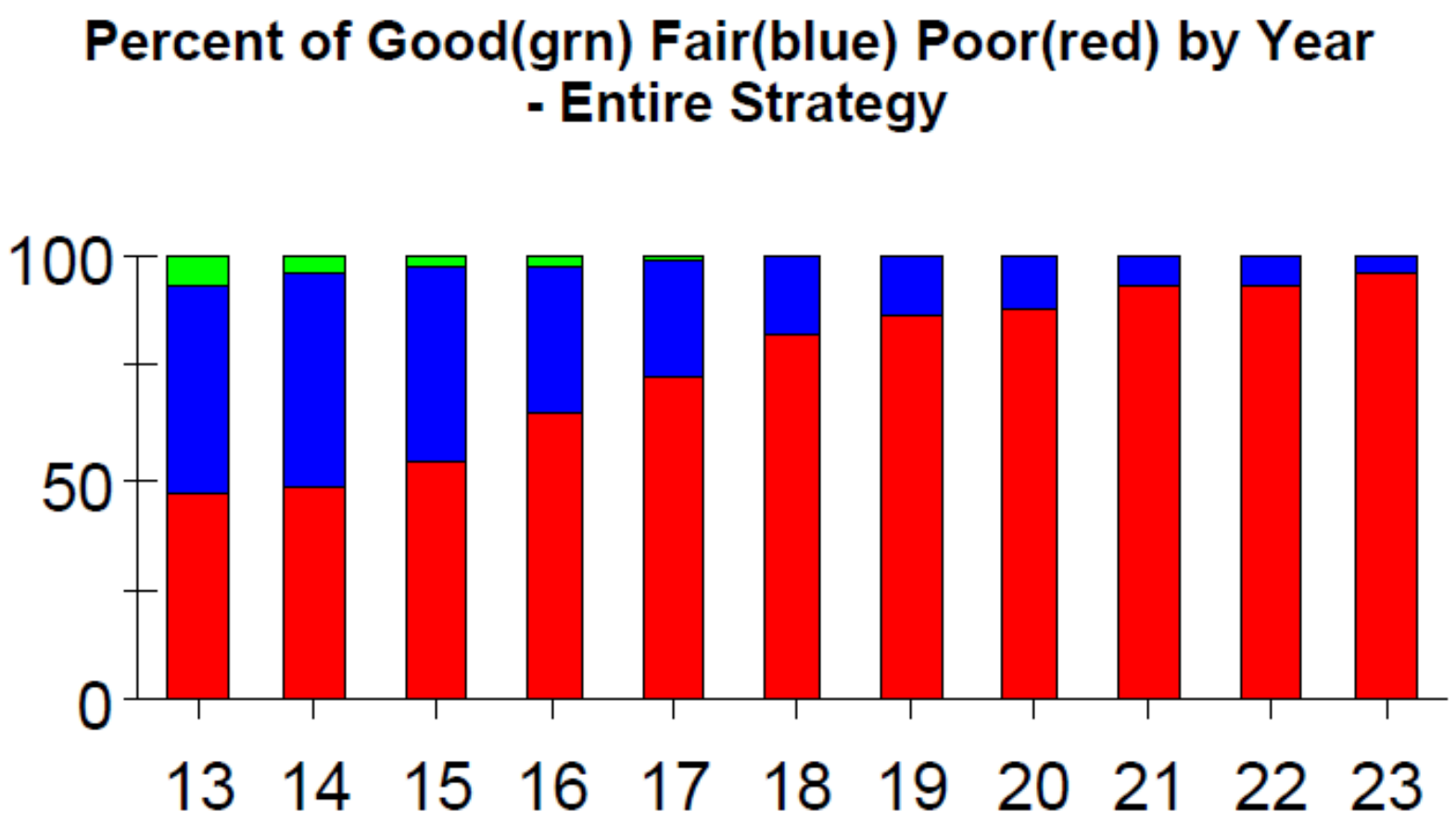
- Roadsoft is the predictive tool
- Analysis done on network-wide basis
  - Not an individual segment basis
- Deterioration curves are used to predict how a network will react over time
  - Different deterioration curves can be used
  - Which curve best matches City's experience Calculates remaining service life
- Each year network loses 48 years of service life (one year per mile)

Predict Future Condition of Streets



Predict Future Condition of Streets

All Streets 2013-2023 – Do Nothing



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Establish Street Network Goals & Performance Measures

- Overall Goal
  - Maximize RSL of network
  - Spends available street dollars in most cost effective manner
  - Utilize scarce resources effectively!
- Other Goal(s)
  - Council to establish
  - Reality based
  - Part of strategic plan

Establish Street Network Goals & Performance Measures

- Use Roadsoft to gather data and evaluate process and performance
- Report annually
- Metrics
  - Number of lane miles treated
  - Types of treatment used
  - Effectiveness of treatment
  - RSL
  - Good, Fair, Poor Distribution

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Evaluate Impact of Treatments

- Roadsoft generated scenarios
  - Different fixes
  - Budget constraints
- Various scenarios for illustration:
  1. Do Nothing
  2. Current Funding Level (after routine maintenance & debt service)
  3. Enhanced Funding Level(s)

Evaluate Impact of Treatments

- Create various scenarios in Roadsoft
  - Major & Local should be looked at separately
  - Large number of strategies can be tested
  - Strategy Optimizer helps choose scenario
- Analyze results - where do you get with:
  - Current Funding
  - Enhanced Funding
- Are you reaching your goals?
- How much more funding is needed?
- Variables Unknown:
  - Future grant opportunities
  - Inflation
  - State funding

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Identify, Prioritize & Select

- PASER Rating
  - Windows of Opportunity, CDP
- Detailed engineering review of the potential segments
- Condition of road base (institutional knowledge and corings)
- Traffic data
- Future water & sewer work
- Grant funding availability

Identify, Prioritize & Select

- Strategic Plan
- Condition of curb & gutter
- Economic impacts
- Dispersion of projects in neighborhoods
- Mobilization of contractors
- Safety issues
- Future known projects

Identify, Prioritize & Select

- Cross functional team of staff
- Use asset management principles
- Evaluate candidates based on criteria
- Logically stage & schedule work
- Work within budget limitations
- Create map of projects
- Council approval

Break

Outline

- Review of City's Program
- What is Street Asset Management
- What has been Accomplished
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What has Been Accomplished
2008-2013

- Total 10.905 miles
  - 141 Segments
  - 22.8%
- Major 4.116 miles
  - 45 Segments
  - 22.4%
- Local 6.789 miles
  - 96 Segments
  - 23.1%
- Does not include crack sealing miles

All Streets


Washington St
Arthur St
Glocheski Dr
Dunes Dr
Madison St
Monroe St
Grove St
Arthur St
Lakeshore Dr
Saint Marys Pkwy
Hughes St
Harrison St
2nd Ave
Lincoln St
3rd Ave
Taylor St
4th Ave
5th Ave
Oakwood St
Hastings St
North St
6th Ave
River St
Beach
S Lakeshore Dr
1st St
Landings Blvd
2nd St
3rd St
Manistee
4th St
5th St
6th St
7th St
8th St
9th St
10th St
11th St
12th St
Water St
Clay St
Filer St
Cypress St
Harbor Dr
Bryant Ave
Broad Ave
Browning Ave
Magill St
Kosciusko St
Disposal Rd
Chapman St
Ramsdell St
Fairway Ln
Cherry Rd
Tamarack St
Elm St
Robinson St
Maple St
Manistee Hwy
Greenwood St
Maywood Ave
Vine St
Main St
State St
Park Pl
Merkey Rd

Major Streets

Local Streets

Total Investment

Treatment	Year	Estimated Street-Related Cost	City Street Funds	City Other Funds	Outside Funds	Leverage Ratio	% Leverage	Leverage Source
Hot-In-Place + Overlay	2009	$ 474,000	$ 474,000	$ -	$ -	1.0	0%	
12th Street End	2009	$ 250,000	$ 20,000	$ -	$ 230,000	12.5	92%	NRCS, FEMA
Harbor Drive	2009	$ 210,000	$ 26,250	$ -	$ 183,750	8.0	88%	FEMA
12th Street (Glen's)	2010	$ 200,000			$ 200,000		100%	Developer
Jones Street SS	2010	$ 1,400,000		$ 1,000,000	$ 400,000	1.4	29%	Cool Cities
Glocheski, Vet Oak Grove	2010	$ 430,000	$ 50,000	$ -	$ 380,000	8.6	88%	MDOT Cat A
Truck Route (Vine, 13th Main)	2010	$ 380,000	$ 30,000	$ -	$ 350,000	12.7	92%	MDOT Cat F
Cedar Street SS	2011	$ 2,500,000	$ -	$ 2,500,000	$ -	1.0	0%	
Cedar Street Orphan	2011	$ 1,100,000	$ 1,100,000	$ -	$ -	1.0	0%	
First Street	2011	$ 1,425,000	$ -	$ 1,425,000	$ -	1.0	0%	
Spruce Street Hill	2011	$ 43,000	$ 43,000	$ -	$ -	1.0	0%	
Monroe Street	2011	$ 46,000	$ -	$ -	$ 46,000		100%	MDOT Detour
Kosciusko Street	2013	$ 206,000	$ 31,000	$ -	$ 175,000	6.6	85%	MDOT Small Urban
Crack Sealing	2011, 2012	$ 39,401	$ 39,401	$ -	$ -	1.0	0%	
Total		**$ 8,703,401**	**$ 1,813,651**	**$ 4,925,000**	**$ 1,964,750**	**1.3**	**23%**	

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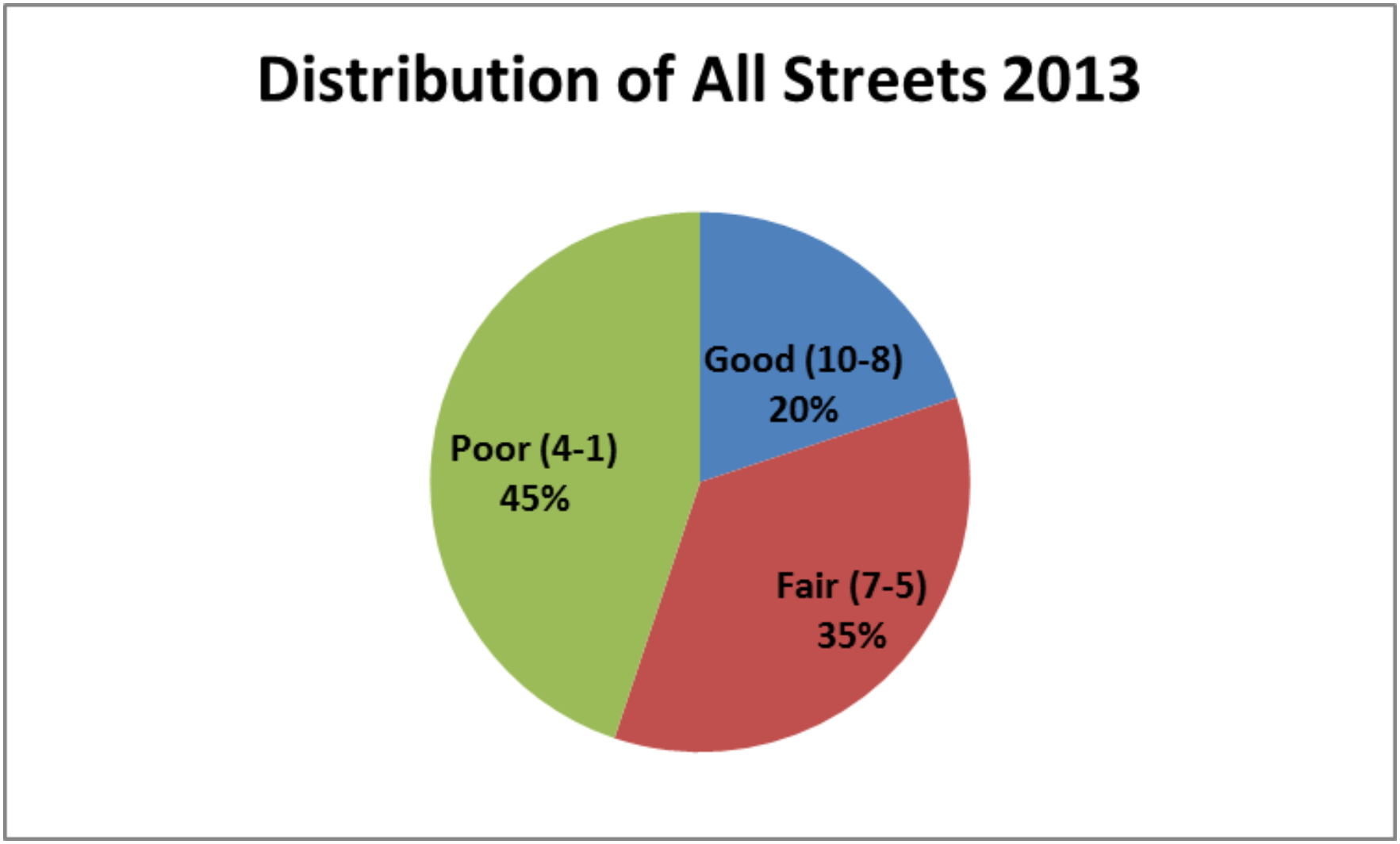
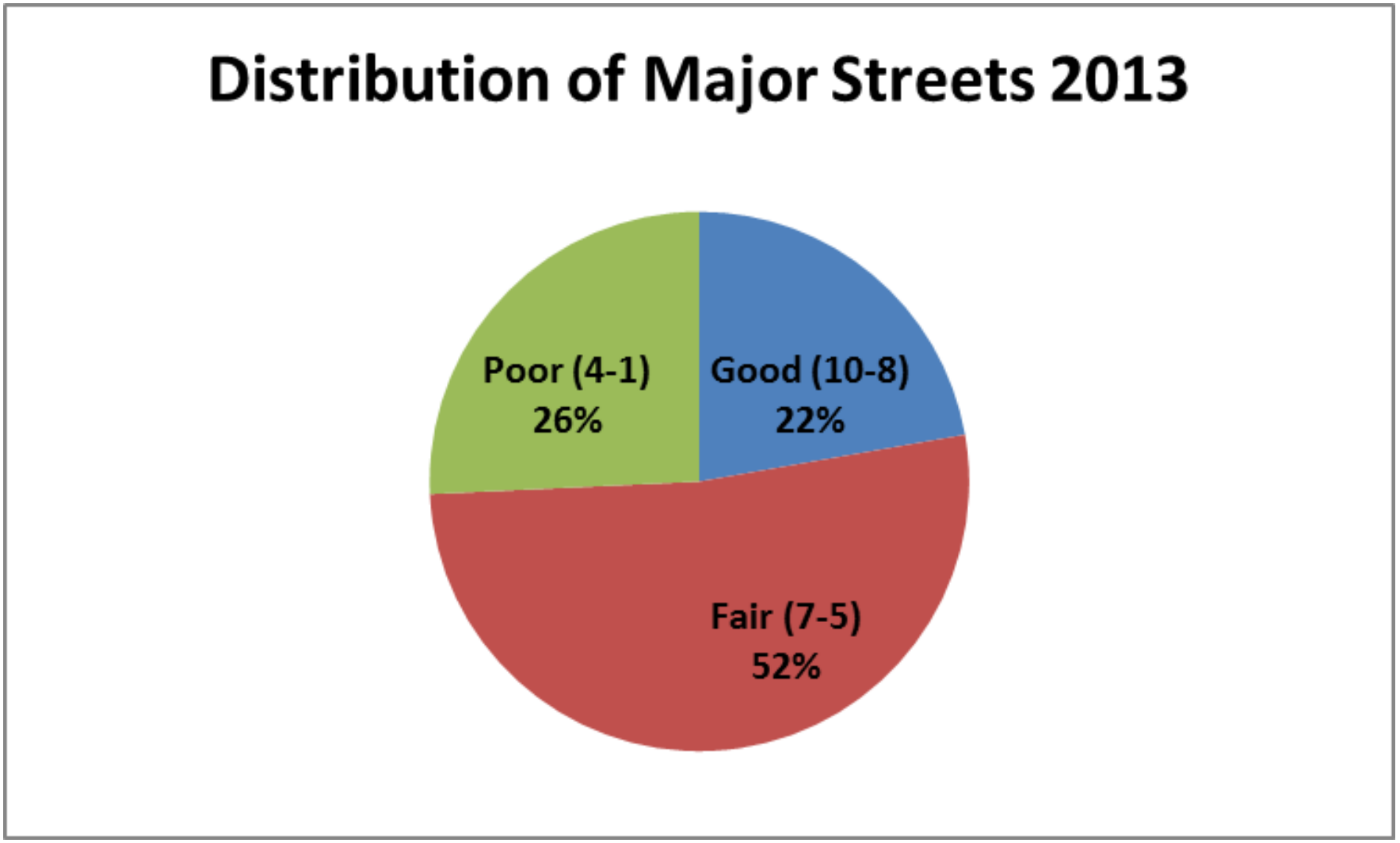
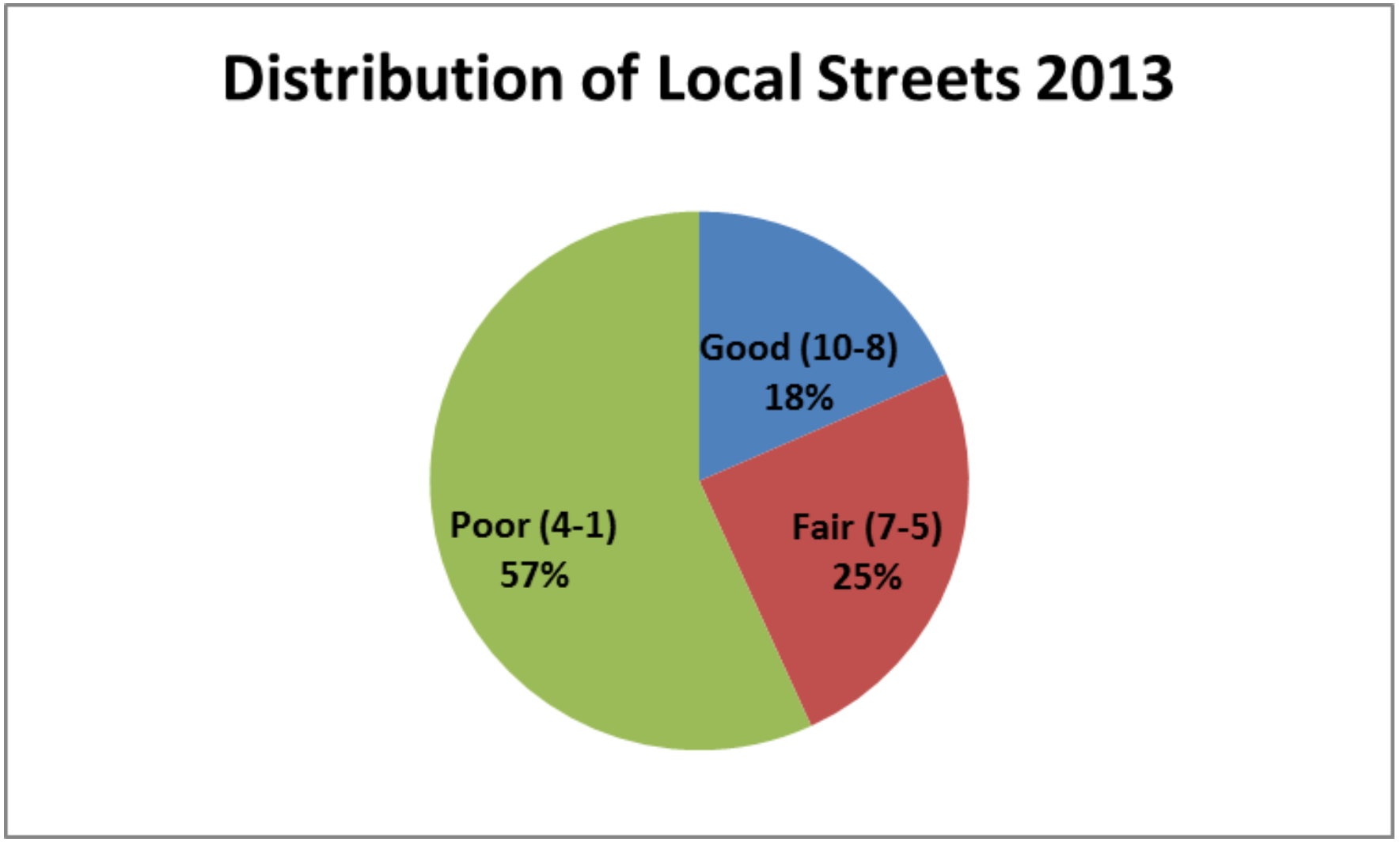
Condition of Streets



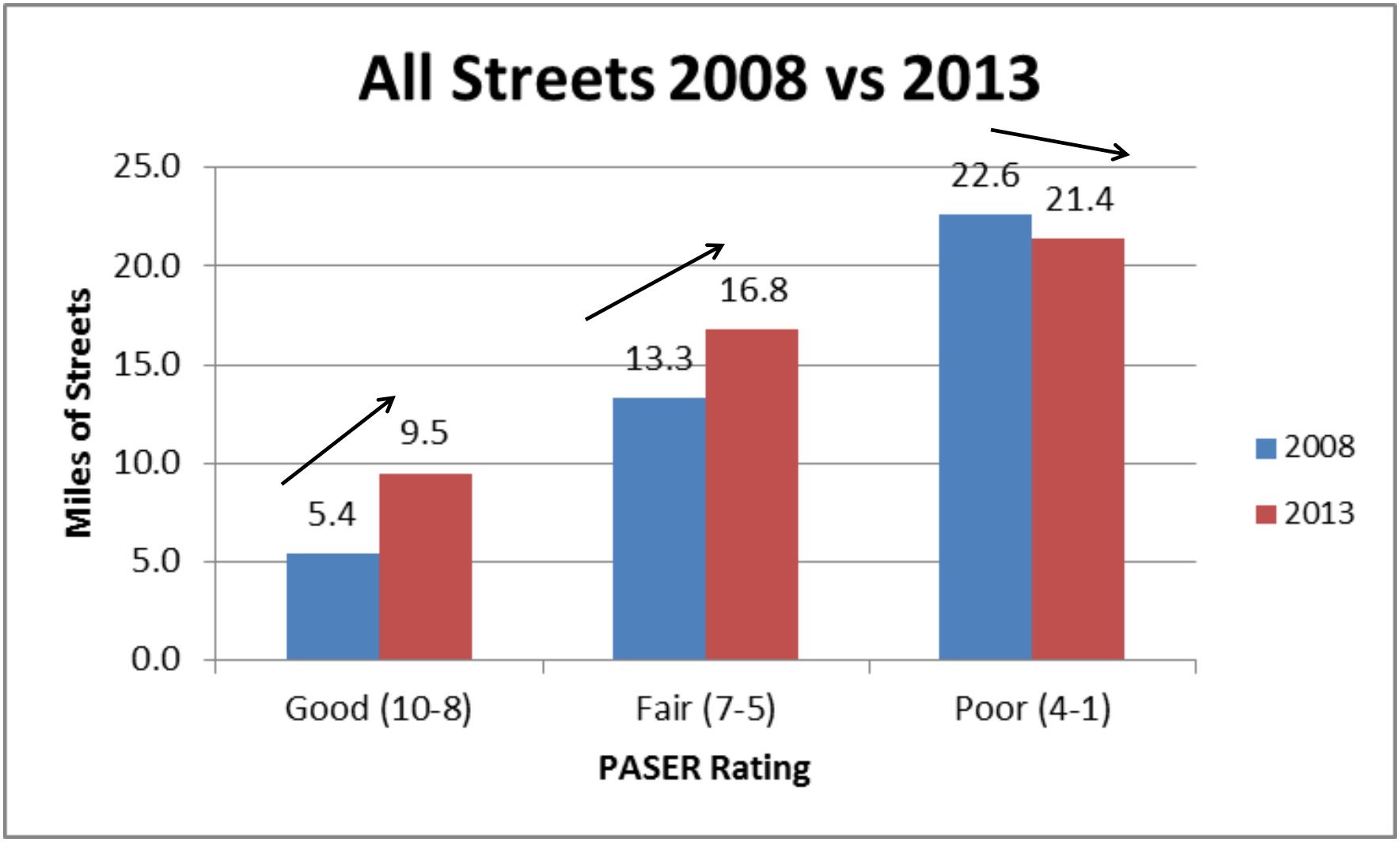
Condition of Streets



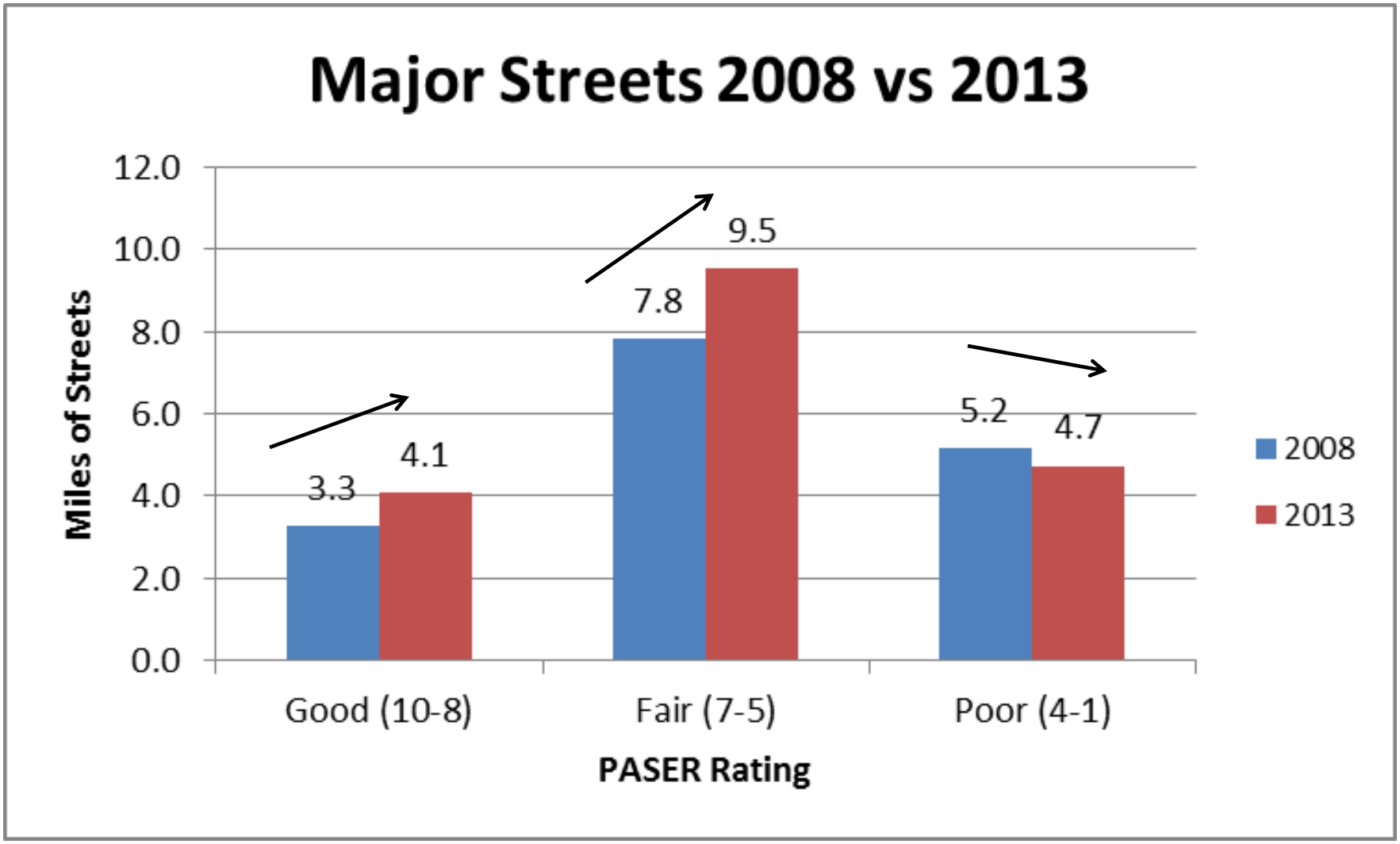
Condition of Streets



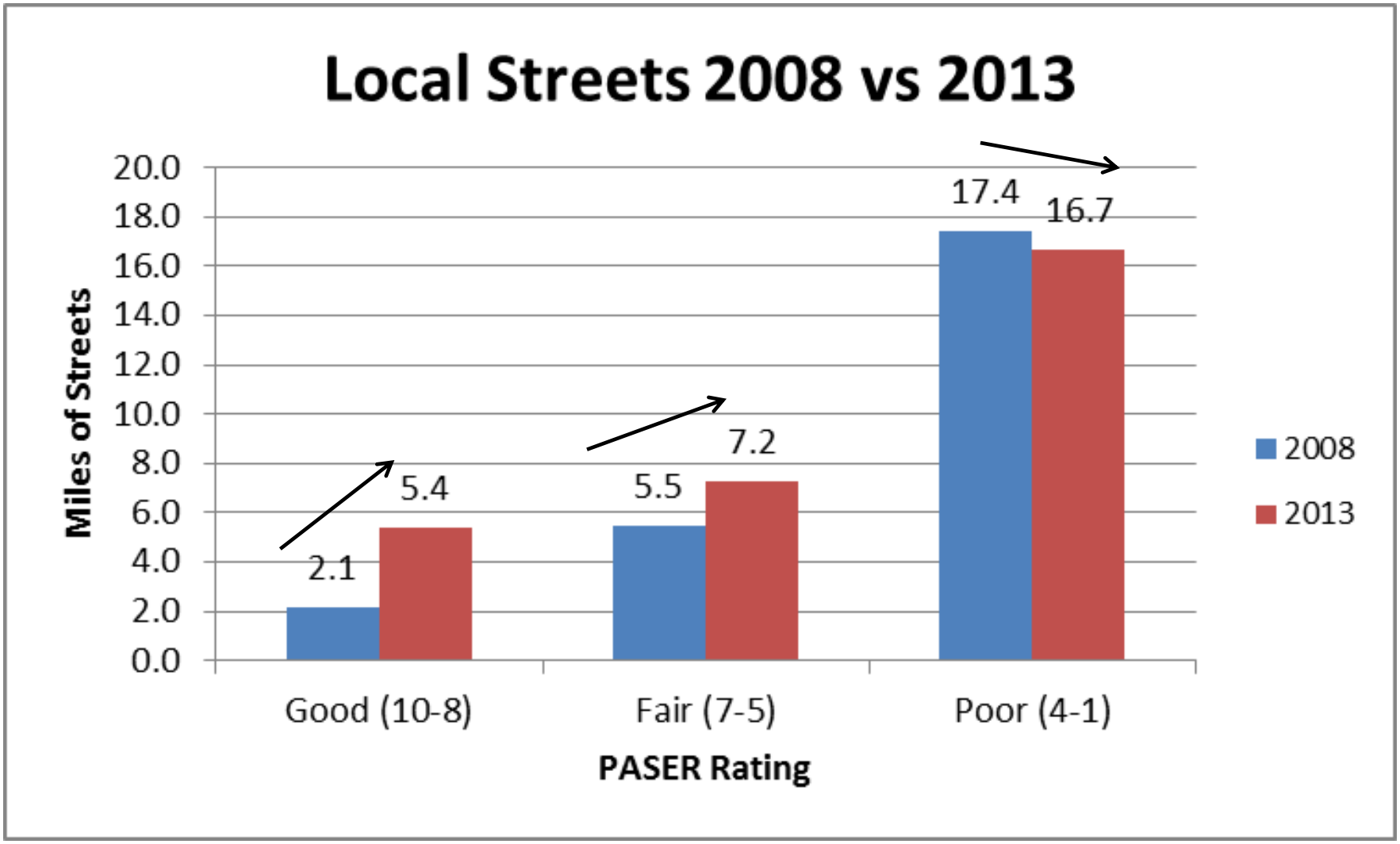
Condition of Streets



Condition of Streets



Condition of Streets



Condition of Streets

- 74% of Major Streets are Good or Fair
- 43% of Local Streets are Good or Fair
- Percentage of Good and Fair streets has risen in both Major and Local
- Percentage of Poor streets has fallen in both Major and Local

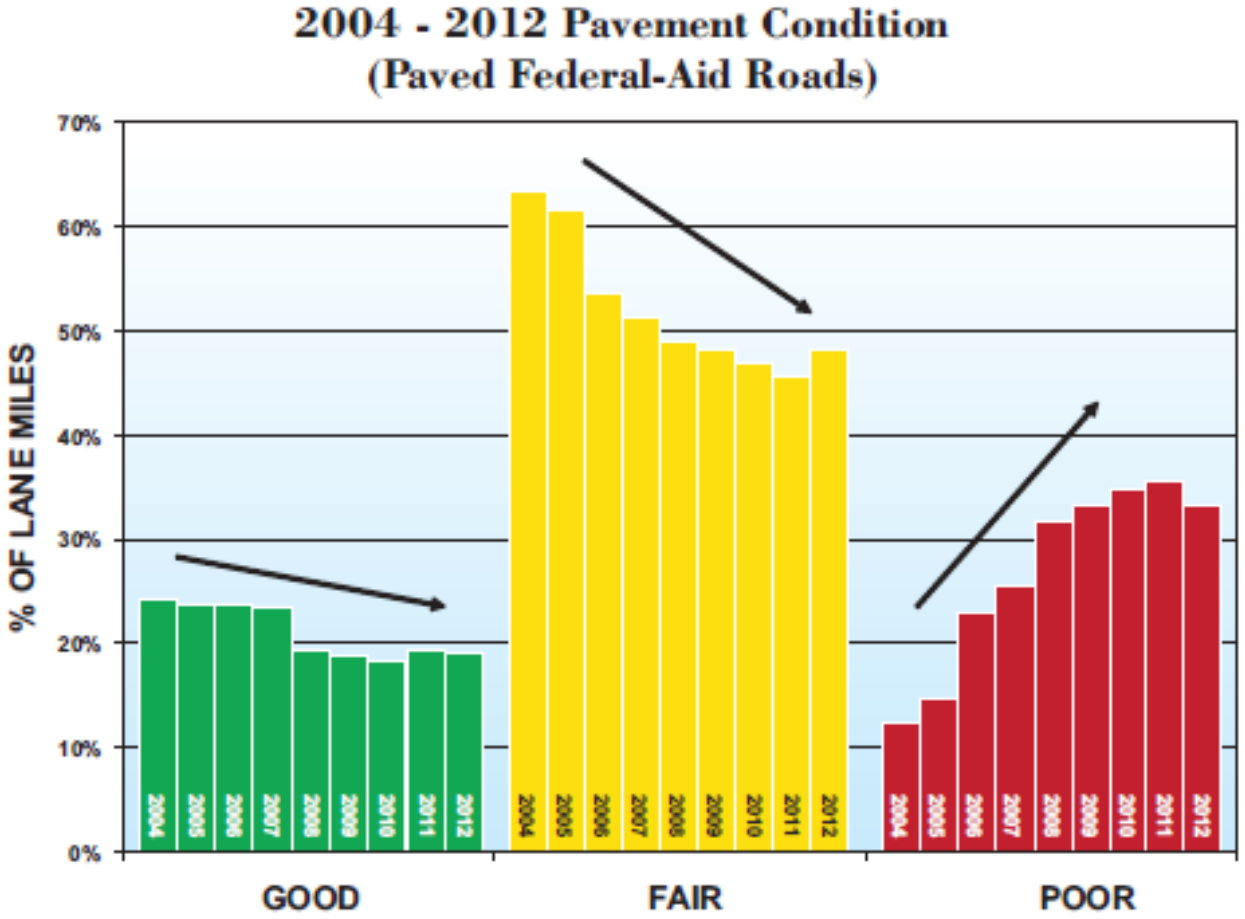
Condition of Streets

How Does Manistee Compare to other Communities?

- TAMC collects and compiles all Federal Aid Road data in State
- TAMC compiles non-Federal Aid road data at Regional level (submission is voluntary)
- Published in dynamic web database
- Publishes annual report
- Manistee compares favorably to peers

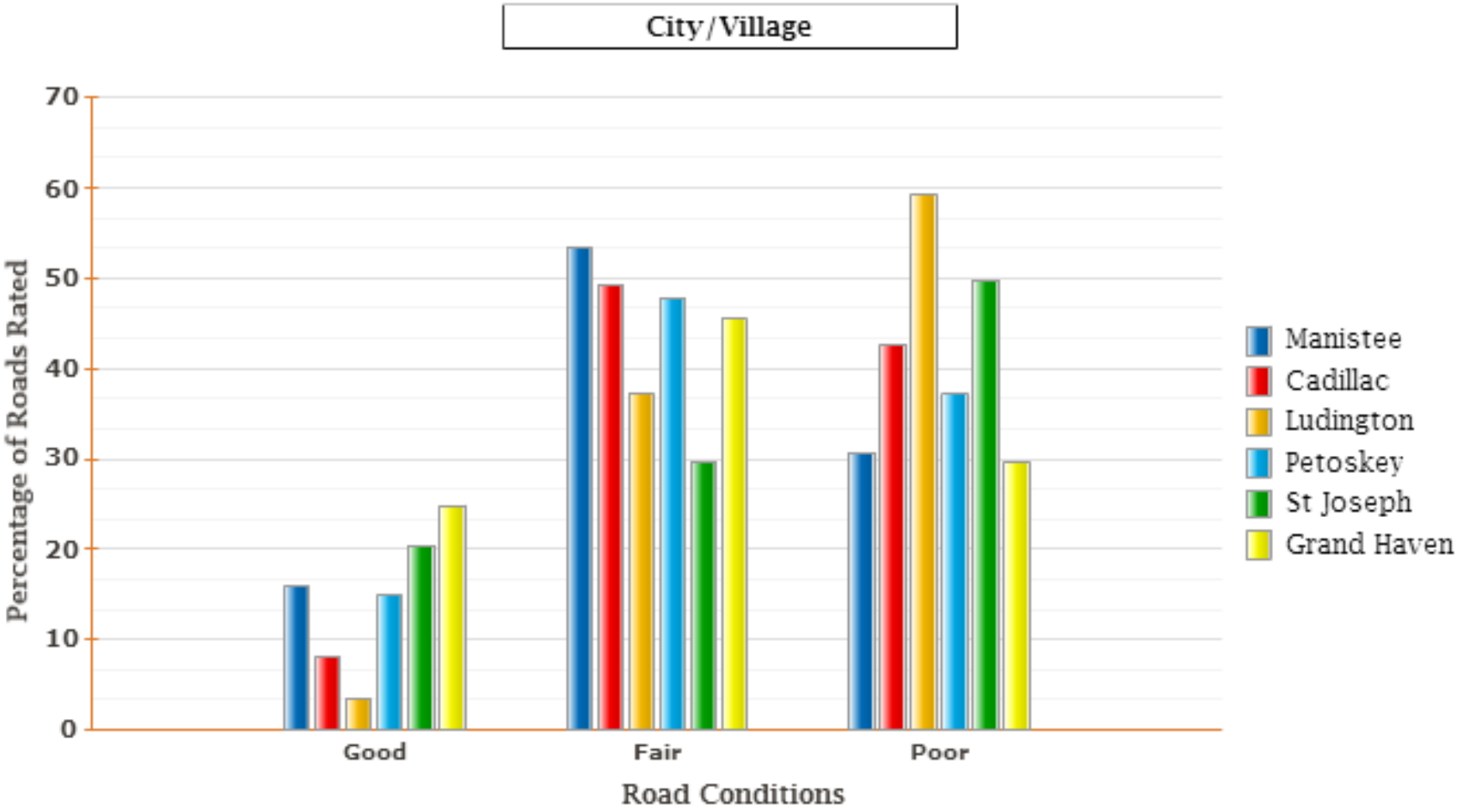
TAMC 2012 Annual Report

- Manistee trends are the opposite of these



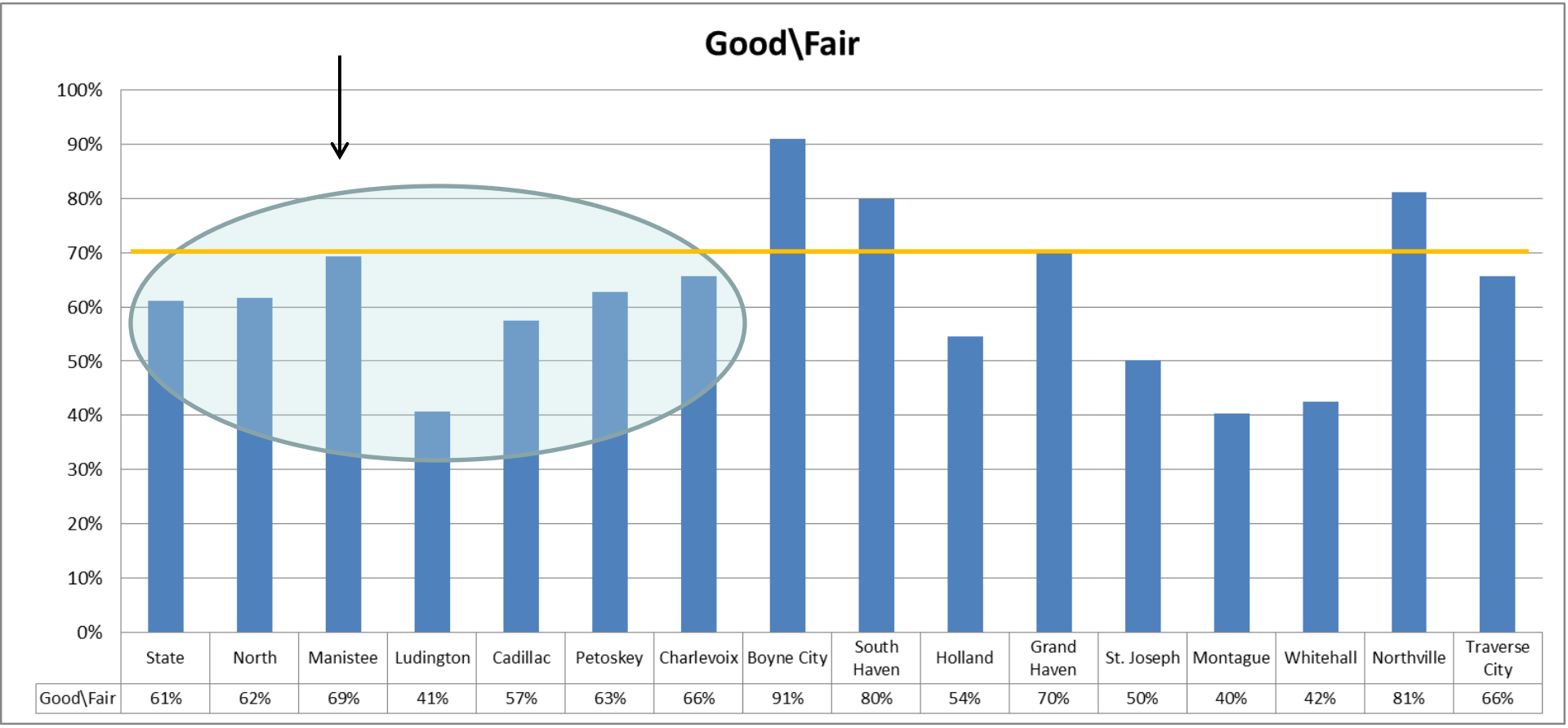
Current Condition of Streets

Federal Aid



Current Condition of Streets

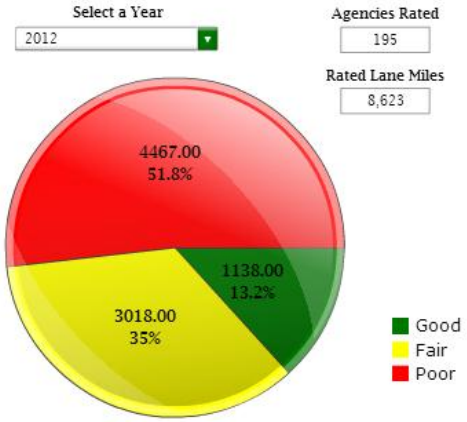
Federal Aid



	State	North	Manistee	Ludington	Cadillac	Petoskey	Charlevoix	Boyne City	South Haven	Holland	Grand Haven	St. Joseph	Montague	Whitehall	Northville	Traverse City
Good\Fair	61%	62%	69%	41%	57%	63%	66%	91%	80%	54%	70%	50%	40%	42%	81%	66%

Current Condition of Streets

Non Federal-Aid \Local (2012)



* Data represents what was submitted to the Assest Management

Outline

- Review of City's Program
- What is Street Asset Management
- What has been Accomplished
- Current Condition of Streets
- What Level of Investment is Needed
- How do other Communities Fund Streets
- Process Moving Forward

Level of Investment Needed

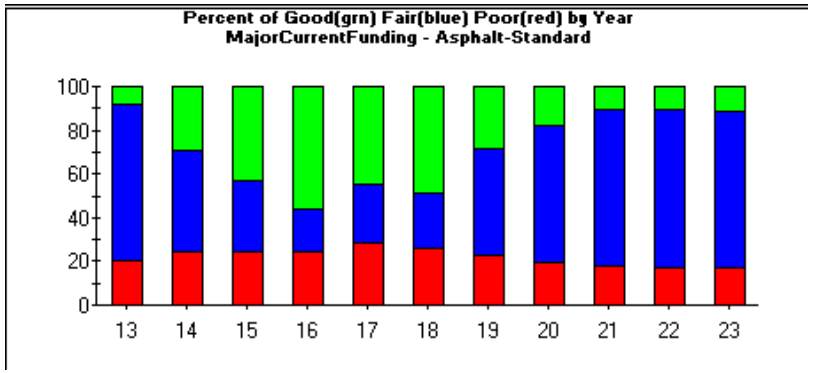
- Major Streets - Current Funding**
- Assumes $150,000 per year funding
  - **Uses freed-up bond debt cash in years 3-10
  - No bonding or grants
- Treatments
  - Years 1-5 mainly Light PM
  - Years 5-8 Heavy PM
  - Years 8-10 Reconstruction

Major – “Current Funding” - $150K

Current Strategy: MajorCurrentFunding [OPTIMIZED] Date Run : 12/9/2013 2:32

Strategy Definition Work this year? ☐ Inflation 3 % Ye

	Budget	Miles	Yr From	Yr To
⊟ Asphalt-Standard: 37.746				
⊞ Manistee Mill & Fill 3" - ($ 90,816 / mile)				
⊞ Manistee Reconstruct - ($ 140,037 / mile)				
⊟ MODEL RECONSTRUCTION - ($ 457,600 / mile)				
.....	$88,866	0.1942	8	8
.....	$112,341	0.2455	9	9
.....	$106,850	0.2335	10	10
⊞ Reconstruction - 9" base, 3" top - ($ 119,680 / mile)				
⊞ Reconstruction - 6" base, 3" top - ($ 98,560 / mile)				
⊞ Manistee Hot in Place + Overlay - ($ 99,475 / mile)				
⊞ Mill & Overlay - 3" Thick - ($ 49,280 / mile)				
⊟ MODEL HEAVY PM - ($ 99,147 / mile)				
.....	$85,593	0.8633	5	5
.....	$125,619	1.267	6	6
.....	$121,960	1.2301	7	7
.....	$29,546	0.298	8	8
⊞ 2" HMA Overlay - ($ 34,261 / mile)				
⊞ Overlay - 200 lbs/syd - ($ 22,587 / mile)				
⊞ Overlay - 3" Thick - ($ 37,195 / mile)				
⊞ Fiber Mesh + MicroSurface - ($ 41,184 / mile)				
⊞ Manistee Microsurface - ($ 12,877 / mile)				
⊞ Manistee Slurry Seal - ($ 19,149 / mile)				
⊞ Manistee Ultra Thin HMA - ($ 16,820 / mile)				
⊟ MODEL LIGHT PM - ($ 24,787 / mile)				
.....	$136,106	5.4911	1	1
.....	$131,002	5.2852	2	2
.....	$116,686	4.7076	3	3
.....	$133,273	5.3768	4	4
.....	$14,852	0.5992	5	5
⊞ Overlay - 1-1/2" Thick - ($ 19,360 / mile)				
⊞ Sealcoat + - ($ 3,989 / mile)				
⊞ Sealcoat - ($ 3,989 / mile)				
⊞ Crack Seal - ($ 1,291 / mile)				
⊞ Manistee Crack Seal - ($ 3,508 / mile)				
⊟ MODEL CRACK SEAL - ($ 3,051 / mile)				
.....	$9,524	3.122	1	1
.....	$10,388	3.405	2	2
.....	$20,585	6.7478	3	3
.....	$28,949	9.4895	5	5
.....	$2,634	0.8633	9	9
.....	$4,743	1.5548	10	10



Strategy Results - MajorCurrentFunding

Year	Category	Good Miles	Fair Miles	Poor Miles	% Good	% Fair	% Poor	Total Miles	RC Cost	RH Cost	PM Cost
2013	Asp	2.930	27.082	7.734	7.76	71.74	20.48	37.746	$0	$0	$0
2014	Asp	11.109	17.497	9.140	29.43	46.35	24.21	37.746	$0	$0	$149,999
2015	Asp	16.394	12.212	9.140	43.43	32.35	24.21	37.746	$0	$0	$150,001
2016	Asp	21.102	7.504	9.140	55.90	19.88	24.21	37.746	$0	$0	$150,000
2017	Asp	16.893	10.185	10.668	44.75	26.98	28.26	37.746	$0	$0	$150,000
2018	Asp	18.355	9.586	9.805	48.62	25.39	25.97	37.746	$0	$99,226	$50,778
2019	Asp	10.648	18.560	8.538	28.21	49.17	22.61	37.746	$0	$149,995	$0
2020	Asp	6.723	23.715	7.308	17.81	62.82	19.36	37.746	$0	$149,996	$0
2021	Asp	3.853	27.078	6.816	10.20	71.73	18.05	37.746	$112,573	$37,428	$0
2022	Asp	4.098	27.078	6.570	10.85	71.73	17.40	37.746	$146,579	$0	$3,436
2023	Asp	4.332	27.078	6.337	11.47	71.73	16.78	37.746	$143,597	$0	$6,374

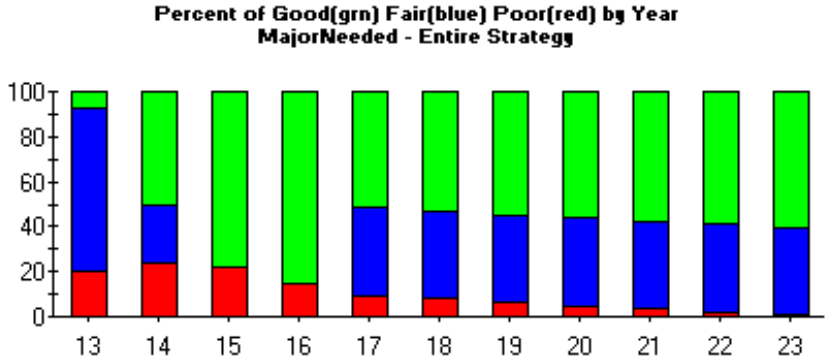
- Big impact early on
- Slightly better year 10
- Doesn’t bend curve much
- 12% G, 71% F, 17% P

Major – Needed Funding - $350K

Current Strategy: MajorNeeded [OPTIMIZED] Date Run : 12/9/2013 5:26:00 PM

Strategy Definition Work this year? ☐ Inflation 3 % Yea

	Budget	Miles	Yr From	Yr To
⊟ Asphalt-Standard: 37.746				
⊞ Manistee Mill & Fill 3" - ($ 90,816 / mile)				
⊞ Manistee Reconstruct - ($ 140,037 / mile)				
⊟ MODEL RECONSTRUCTION - ($ 457,600 / mile)				
.....	$152,610	0.3335	4	4
.....	$271,082	0.5924	5	5
.....	$268,748	0.5873	6	6
.....	$257,400	0.5625	7	7
.....	$243,947	0.5331	8	8
.....	$239,279	0.5229	9	9
.....	$229,120	0.5007	10	10
⊞ Reconstruction - 9" base, 3" top - ($ 119,680 / mile)				
⊞ Reconstruction - 6" base, 3" top - ($ 98,560 / mile)				
⊞ Manistee Hot in Place + Overlay - ($ 99,475 / mile)				
⊞ Mill & Overlay - 3" Thick - ($ 49,280 / mile)				
⊟ MODEL HEAVY PM - ($ 99,147 / mile)				
.....	$72,040	0.7266	2	2
.....	$284,640	2.8709	3	3
.....	$158,347	1.5971	4	4
⊞ 2" HMA Overlay - ($ 34,261 / mile)				
⊞ Overlay - 200 lbs/syd - ($ 22,587 / mile)				
⊞ Overlay - 3" Thick - ($ 37,195 / mile)				
⊞ Fiber Mesh + MicroSurface - ($ 41,184 / mile)				
⊞ Manistee Microsurface - ($ 12,877 / mile)				
⊞ Manistee Slurry Seal - ($ 19,149 / mile)				
⊞ Manistee Ultra Thin HMA - ($ 16,820 / mile)				
⊟ MODEL LIGHT PM - ($ 24,787 / mile)				
.....	$330,282	13.325	1	1
.....	$239,514	9.663	2	2
⊞ Overlay - 1-1/2" Thick - ($ 19,360 / mile)				
⊞ Sealcoat + - ($ 3,989 / mile)				
⊞ Sealcoat - ($ 3,989 / mile)				
⊞ Crack Seal - ($ 1,291 / mile)				
⊞ Manistee Crack Seal - ($ 3,508 / mile)				
⊟ MODEL CRACK SEAL - ($ 3,051 / mile)				
.....	$9,524	3.122	1	1
.....	$18,354	6.0163	2	2
.....	$35,659	11.6888	3	3
.....	$30,826	10.1047	5	5
.....	$24,378	7.9911	6	6
.....	$27,159	8.9028	7	7
.....	$32,327	10.5966	8	8
.....	$28,972	9.4971	9	9
.....	$31,293	10.2579	10	10



Strategy Results - MajorNeeded

Year	Category	Good Miles	Fair Miles	Poor Miles	% Good	% Fair	% Poor	Total Miles	RC Cost	RH Cost	PM Cost
2013	Asp	2.930	27.082	7.734	7.76	71.74	20.48	37.746	$0	$0	$0
2014	Asp	18.943	9.663	9.140	50.18	25.60	24.21	37.746	$0	$0	$350,001
2015	Asp	29.333	0.000	8.413	77.71	0.00	22.28	37.746	$0	$76,427	$273,571
2016	Asp	32.204	0.000	5.543	85.31	0.00	14.68	37.746	$0	$311,034	$38,965
2017	Asp	19.529	14.605	3.612	51.73	38.69	9.56	37.746	$171,763	$178,221	$0
2018	Asp	20.122	14.605	3.020	53.30	38.69	7.99	37.746	$314,259	$0	$35,736
2019	Asp	20.709	14.605	2.432	54.86	38.69	6.44	37.746	$320,900	$0	$29,109
2020	Asp	21.271	14.605	1.870	56.35	38.69	4.95	37.746	$316,570	$0	$33,403
2021	Asp	21.804	14.605	1.337	57.76	38.69	3.54	37.746	$309,024	$0	$40,950
2022	Asp	22.327	14.605	0.814	59.15	38.69	2.15	37.746	$312,205	$0	$37,803
2023	Asp	22.828	14.605	0.313	60.47	38.69	0.82	37.746	$307,919	$0	$42,056

- Additional $200,000/yr.
- Eliminates Poor roads
- 60% G; 39% F, 1%P

Level of Investment Needed

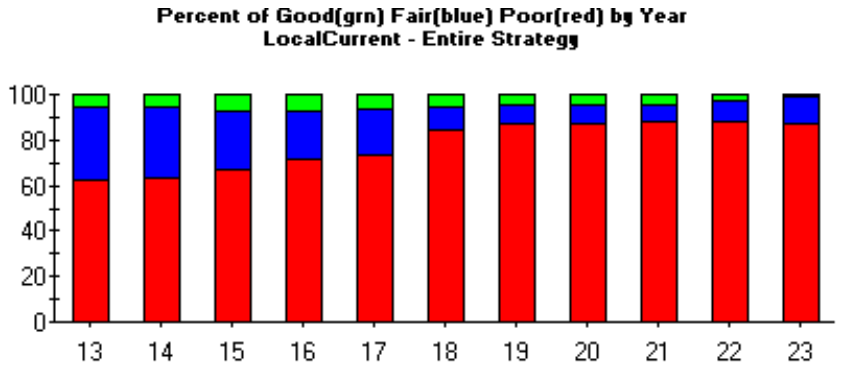
- Local Streets - Current Funding
- Assumes $5,000 per year funding
  - No funding available
  - Essentially a “Do Nothing” strategy
  - No bonding or grants
- Treatments
  - Mainly Light PM in the form of crack sealing
  - Doesn’t help Poor roads

Local - Current Funding - $5,000

Current Strategy: LocalCurrent [OPTIMIZED] Date Run : 12/9/2013 5:42:00 PM

Strategy Definition Work this year? ☐ Inflation 3 % Yea

	Budget	Miles	Yr From	Yr To
⊟ Asphalt-Standard: 56.266				
⊞ Manistee Mill & Fill 3" - ($ 90,816 / mile)				
⊞ Manistee Reconstruct - ($ 140,037 / mile)				
⊞ MODEL RECONSTRUCTION - ($ 457,600 / mile)				
⊞ Reconstruction - 9" base, 3" top - ($ 119,680 / mile)				
⊞ Reconstruction - 6" base, 3" top - ($ 98,560 / mile)				
⊞ Manistee Hot in Place + Overlay - ($ 99,475 / mile)				
⊞ Mill & Overlay - 3" Thick - ($ 49,280 / mile)				
⊟ MODEL HEAVY PM - ($ 99,147 / mile)				
.....	$3,470	0.035	9	9
.....	$3,718	0.0375	10	10
⊞ 2" HMA Overlay - ($ 34,261 / mile)				
⊞ Overlay - 200 lbs/syd - ($ 22,587 / mile)				
⊞ Overlay - 3" Thick - ($ 37,195 / mile)				
⊞ Fiber Mesh + MicroSurface - ($ 41,184 / mile)				
⊞ Manistee Microsurface - ($ 12,877 / mile)				
⊞ Manistee Slurry Seal - ($ 19,149 / mile)				
⊞ Manistee Ultra Thin HMA - ($ 16,820 / mile)				
⊟ MODEL LIGHT PM - ($ 24,787 / mile)				
.....	$359	0.0145	9	9
⊞ Overlay - 1-1/2" Thick - ($ 19,360 / mile)				
⊞ Sealcoat + - ($ 3,989 / mile)				
⊞ Sealcoat - ($ 3,989 / mile)				
⊞ Crack Seal - ($ 1,291 / mile)				
⊞ Manistee Crack Seal - ($ 3,508 / mile)				
⊟ MODEL CRACK SEAL - ($ 3,051 / mile)				
.....	$4,854	1.5912	1	1
.....	$4,713	1.5449	2	2
.....	$4,576	1.4999	3	3
.....	$4,442	1.4562	4	4
.....	$4,313	1.4138	5	5
.....	$4,187	1.3726	6	6
.....	$4,065	1.3326	7	7
.....	$3,947	1.2938	8	8



Strategy Results - LocalCurrent

Year	Category	Good Miles	Fair Miles	Poor Miles	% Good	% Fair	% Poor	Total Miles	RC Cost	RH Cost	PM Cost
2013	Asp	3.300	17.978	34.988	5.86	31.95	62.18	56.266	$0	$0	$0
2014	Asp	3.307	17.471	35.488	5.87	31.05	63.07	56.266	$0	$0	$5,000
2015	Asp	3.898	14.584	37.784	6.92	25.92	67.15	56.266	$0	$0	$5,000
2016	Asp	4.122	11.844	40.300	7.32	21.04	71.62	56.266	$0	$0	$5,000
2017	Asp	3.593	11.179	41.494	6.38	19.86	73.74	56.266	$0	$0	$5,000
2018	Asp	2.885	5.997	47.384	5.12	10.65	84.21	56.266	$0	$0	$5,000
2019	Asp	2.801	4.527	48.938	4.97	8.04	86.97	56.266	$0	$0	$5,000
2020	Asp	2.719	4.609	48.938	4.83	8.19	86.97	56.266	$0	$0	$5,000
2021	Asp	2.640	4.258	49.368	4.69	7.56	87.74	56.266	$0	$0	$5,000
2022	Asp	1.356	5.577	49.333	2.41	9.91	87.67	56.266	$0	$4,528	$469
2023	Asp	0.513	6.457	49.295	0.91	11.47	87.61	56.266	$0	$4,997	$0

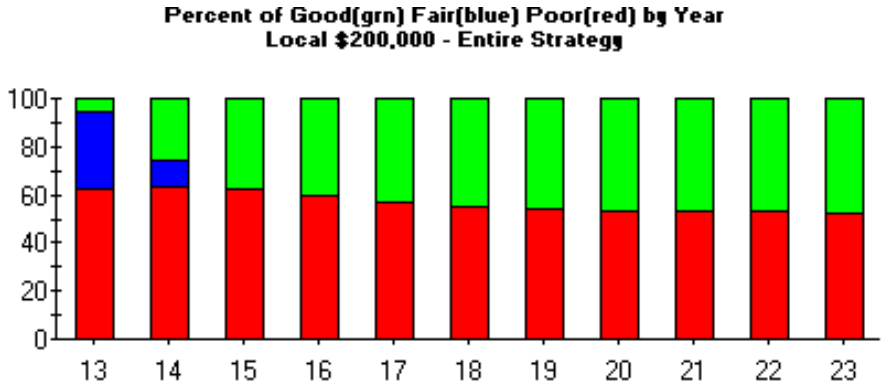
- Essentially “Do Nothing”
- Roads deteriorate
- 1% G, 12% F, 87% P

Current Strategy: Local $200,000 [OPTIMIZED] Date Run : 12/9/2013 5:49:00 P

Strategy Definition Work this year? ☐ Inflation 3 % Yea

	Budget	Miles	Yr From	Yr To
⊟ Asphalt-Standard: 56.266				
⊞ Manistee Mill & Fill 3" - ($ 90,816 / mile)				
⊞ Manistee Reconstruct - ($ 140,037 / mile)				
⊟ MODEL RECONSTRUCTION - ($ 457,600 / mile)				
	$126,481	0.2764	6	6
	$125,291	0.2738	7	7
	$119,845	0.2619	8	8
	$113,531	0.2481	9	9
	$110,144	0.2407	10	10
⊞ Reconstruction - 9" base, 3" top - ($ 119,680 / mile)				
⊞ Reconstruction - 6" base, 3" top - ($ 98,560 / mile)				
⊞ Manistee Hot in Place + Overlay - ($ 99,475 / mile)				
⊞ Mill & Overlay - 3" Thick - ($ 49,280 / mile)				
⊟ MODEL HEAVY PM - ($ 99,147 / mile)				
	$17,926	0.1808	2	2
	$158,189	1.5955	3	3
	$143,941	1.4518	4	4
	$139,926	1.4113	5	5
	$10,063	0.1015	6	6
⊞ 2" HMA Overlay - ($ 34,261 / mile)				
⊞ Overlay - 200 lbs/syd - ($ 22,587 / mile)				
⊞ Overlay - 3" Thick - ($ 37,195 / mile)				
⊞ Fiber Mesh + MicroSurface - ($ 41,184 / mile)				
⊞ Manistee Microsurface - ($ 12,877 / mile)				
⊞ Manistee Slurry Seal - ($ 19,149 / mile)				
⊞ Manistee Ultra Thin HMA - ($ 16,820 / mile)				
⊟ MODEL LIGHT PM - ($ 24,787 / mile)				
	$177,054	7.1431	1	1
	$156,327	6.3069	2	2
⊞ Overlay - 1-1/2" Thick - ($ 19,360 / mile)				
⊞ Sealcoat + - ($ 3,989 / mile)				
⊞ Sealcoat - ($ 3,989 / mile)				
⊞ Crack Seal - ($ 1,291 / mile)				
⊞ Manistee Crack Seal - ($ 3,508 / mile)				
⊟ MODEL CRACK SEAL - ($ 3,051 / mile)				
	$17,120	5.612	1	1
	$14,264	4.6757	2	2
	$24,840	8.1426	3	3
	$33,761	11.0668	4	4
	$32,599	10.686	5	5
	$30,952	10.1459	6	6
	$37,305	12.2284	7	7
	$38,047	12.4718	8	8
	$39,740	13.0267	9	9
	$38,674	12.6771	10	10

Local - Higher Funding - $200,000



Strategy Results - Local $200,000

Year	Category	Good Miles	Fair Miles	Poor Miles	% Good	% Fair	% Poor	Total Miles	RC Cost	RH Cost	PM Cost
2013	Asp	3.300	17.978	34.988	5.86	31.95	62.18	56.266	$0	$0	$0
2014	Asp	14.471	6.307	35.488	25.71	11.20	63.07	56.266	$0	$0	$199,999
2015	Asp	20.959	0.000	35.307	37.24	0.00	62.75	56.266	$0	$19,017	$180,980
2016	Asp	22.554	0.000	33.712	40.08	0.00	59.91	56.266	$0	$172,857	$27,144
2017	Asp	24.006	0.000	32.260	42.66	0.00	57.33	56.266	$0	$162,007	$37,998
2018	Asp	25.418	0.000	30.849	45.17	0.00	54.82	56.266	$0	$162,212	$37,792
2019	Asp	25.795	0.000	30.471	45.84	0.00	54.15	56.266	$151,024	$12,004	$36,958
2020	Asp	26.069	0.000	30.197	46.33	0.00	53.66	56.266	$154,092	$0	$45,880
2021	Asp	26.331	0.000	29.935	46.79	0.00	53.20	56.266	$151,817	$0	$48,197
2022	Asp	26.579	0.000	29.687	47.23	0.00	52.76	56.266	$148,132	$0	$51,852
2023	Asp	26.820	0.000	29.446	47.66	0.00	52.33	56.266	$148,025	$0	$51,974

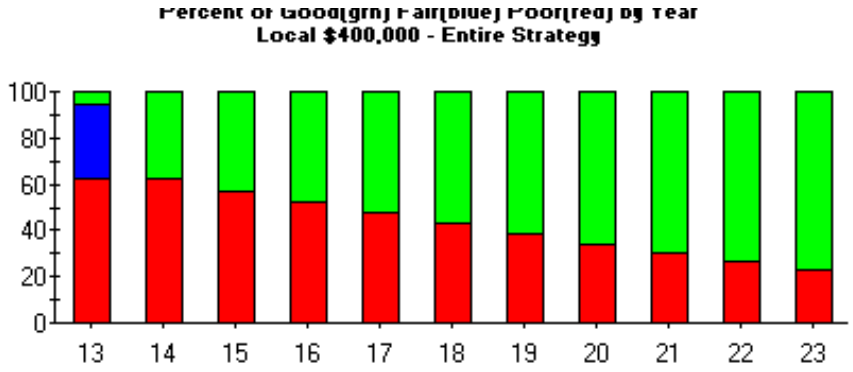
- Helps overall network
- All Good or Poor
- 48% G, 0% F, 52% P

Local – Funding - $400,000

Current Strategy: Local $400,000 [OPTIMIZED] Date Run : 12/9/2013 6:25:00 P

Strategy Definition Work this year? ☐ Inflation 3 % Yea

	Budget	Miles	Yr From	Yr To
⊟ Asphalt-Standard: 56.266				
⊞ Manistee Mill & Fill 3" - ($ 90,816 / mile)				
⊞ Manistee Reconstruct - ($ 140,037 / mile)				
⊞ MODEL RECONSTRUCTION - ($ 457,600 / mile)				
⊟ Reconstruction - 9" base, 3" top - ($ 119,680 / mile)				
	$37,843	0.3162	1	1
	$356,359	2.9776	2	2
	$339,077	2.8332	3	3
	$318,780	2.6636	4	4
	$315,058	2.6325	5	5
	$302,838	2.5304	6	6
	$283,235	2.3666	7	7
	$272,404	2.2761	8	8
	$259,263	2.1663	9	9
	$245,392	2.0504	10	10
⊞ Reconstruction - 6" base, 3" top - ($ 98,560 / mile)				
⊞ Manistee Hot in Place + Overlay - ($ 99,475 / mile)				
⊞ Mill & Overlay - 3" Thick - ($ 49,280 / mile)				
⊞ MODEL HEAVY PM - ($ 99,147 / mile)				
⊞ 2" HMA Overlay - ($ 34,261 / mile)				
⊞ Overlay - 200 lbs/syd - ($ 22,587 / mile)				
⊞ Overlay - 3" Thick - ($ 37,195 / mile)				
⊞ Fiber Mesh + MicroSurface - ($ 41,184 / mile)				
⊞ Manistee Microsurface - ($ 12,877 / mile)				
⊞ Manistee Slurry Seal - ($ 19,149 / mile)				
⊞ Manistee Ultra Thin HMA - ($ 16,820 / mile)				
⊟ MODEL LIGHT PM - ($ 24,787 / mile)				
	$333,381	13.45	1	1
⊞ Overlay - 1-1/2" Thick - ($ 19,360 / mile)				
⊞ Sealcoat + - ($ 3,989 / mile)				
⊞ Sealcoat - ($ 3,989 / mile)				
⊞ Crack Seal - ($ 1,291 / mile)				
⊞ Manistee Crack Seal - ($ 3,508 / mile)				
⊟ MODEL CRACK SEAL - ($ 3,051 / mile)				
	$17,120	5.612	1	1
	$20,677	6.778	2	2
	$26,978	8.8433	3	3
	$36,611	12.0011	4	4
	$29,987	9.8295	5	5
	$32,157	10.5409	6	6
	$42,002	13.7681	7	7
	$43,358	14.2127	8	8
	$47,298	15.5042	9	9
	$52,250	17.1275	10	10



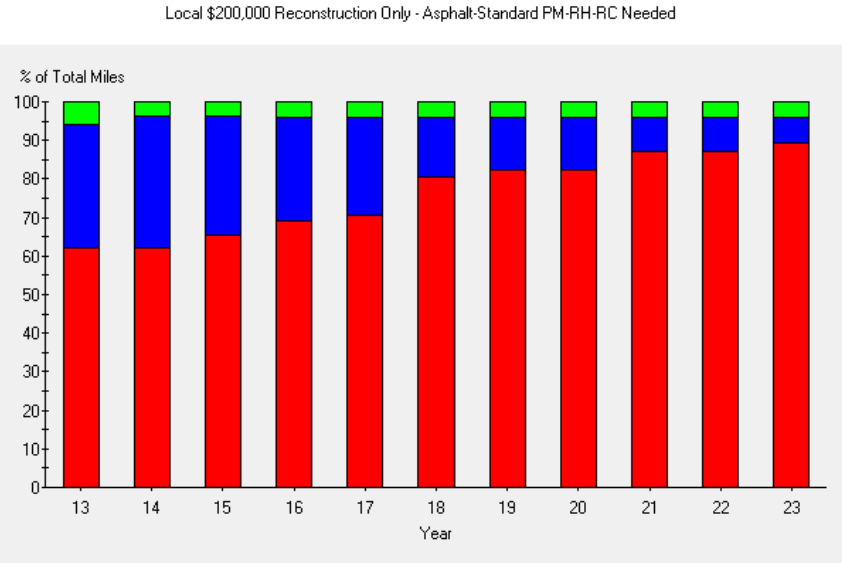
Strategy Results - Local $400,000

Year	Category	Good Miles	Fair Miles	Poor Miles	% Good	% Fair	% Poor	Total Miles	RC Cost	RH Cost	PM Cost
2013	Asp	3.300	17.978	34.988	5.86	31.95	62.18	56.266	$0	$0	$0
2014	Asp	21.094	0.000	35.172	37.49	0.00	62.50	56.266	$38,978	$0	$361,016
2015	Asp	24.072	0.000	32.194	42.78	0.00	57.21	56.266	$378,061	$0	$21,937
2016	Asp	26.905	0.000	29.361	47.81	0.00	52.18	56.266	$370,519	$0	$29,480
2017	Asp	29.569	0.000	26.697	52.55	0.00	47.44	56.266	$358,789	$0	$41,206
2018	Asp	32.201	0.000	24.065	57.23	0.00	42.76	56.266	$365,238	$0	$34,763
2019	Asp	34.732	0.000	21.535	61.72	0.00	38.27	56.266	$361,605	$0	$38,397
2020	Asp	37.098	0.000	19.168	65.93	0.00	34.06	56.266	$348,343	$0	$51,657
2021	Asp	39.374	0.000	16.892	69.97	0.00	30.02	56.266	$345,073	$0	$54,925
2022	Asp	41.541	0.000	14.726	73.82	0.00	26.17	56.266	$338,279	$0	$61,713
2023	Asp	43.591	0.000	12.675	77.47	0.00	22.52	56.266	$329,786	$0	$70,220

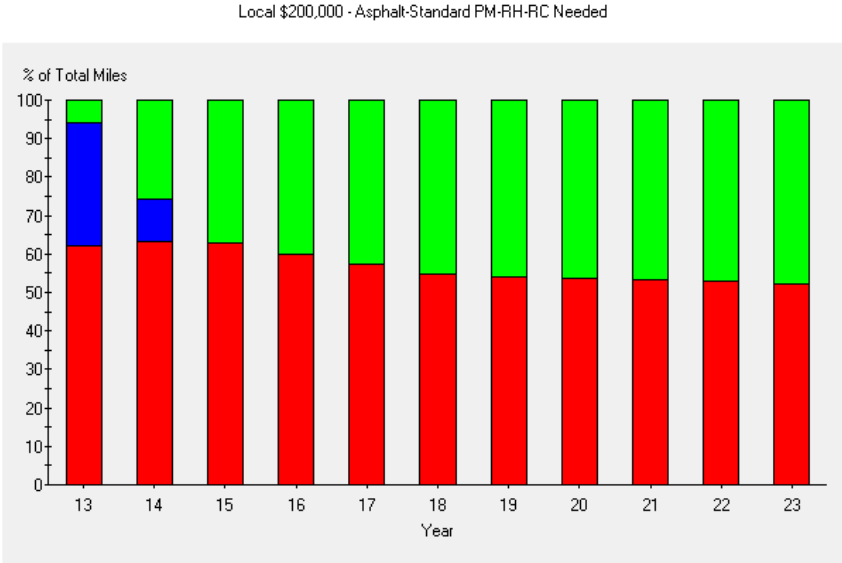
- Helps overall network
- Still all Good or Poor
- 77% G, 0% F, 23% P

Comparing How To Spend $200,000 Annually on Local Streets

- Reconstruction Only vs. Mix of Fixes



Reconstruction



Mix of Fixes

Level of Investment Needed

- Do Nothing not an alternative
- Overall, current street funding inadequate to improve, much less maintain, road network.
- Major Streets
  - $150,000 per year maintains status quo after 10 years
  - $350,000 per year eliminates Poor roads
- Local Streets
  - $5,000 per year essentially Do Nothing
  - $200,000 per year results in Good 48% and Poor 52%
  - $1,500,000 per year needed to get 95% to good
  - Expensive to bend the curve upward because so many poor streets to start with
    - Classic example of why asset management is needed

Outline

- Review of City's Program
- What is Street Asset Management
- What has been Accomplished
- Current Condition of Streets
- What Level of Investment is Needed
- How do other Communities Fund Streets
- Process Moving Forward

How Do Other Communities Fund Streets?

- Benchmark survey done in Nov\Dec 2013
- Asked about a variety of street related items, including funding
- Peers
  - Ludington, Boyne City, Montague, Whitehall, Northville, Petoskey, Charlevoix, South Haven, Holland, Grand Haven, St. Joseph, Cadillac

How Do Other Communities Fund Streets?

- 12 out of 26 had street asset management plan – 2 had State approval as of 2012
- 14 out of 26 had some sort of street millage (local or county)
- 15 out of 26 had some general fund contribution to streets (one income tax)
- 6 out of 26 has used a special assessment to fund streets

COMMUNITY	TOTAL MILES OF STREETS	STREET ASSET MGMT. PLAN	MILL $	VOTED STREET MILLAGE	GENERAL FUND CONTRIBUTION TOWARD STREET MAINTENANCE	USE OF SPECIAL ASSESSMENT	ARE YOU A 20 MILL MAX HOME RULE CITY	TOTAL MILLS LEVIED
MANISTEE	47	Yes	$190,000	No	No	No	Yes	18.45
LUDINGTON	49	No	$268,000	No	2010 $210,000 2011 $185,000 2012 $115,000 2013 $128,000	No	Yes	15.4938
BOYNE CITY	36	No	$161,000	4 Mill, 15 year county street millage, City gets 1 mill	Yes, subsidizes voted millage	No	Yes	15.51
MONTAGUE	25	Yes	$79,000	No	Yes, 2 mill increase for infrastructure projects	No	Yes	16.75
WHITEHALL	26	Yes, but does not rate streets	$86,000	No	Yes, $97,000	No	Yes	12.77
NORTHVILLE	25	No, not state approved, in house street mgmt. plan	$300,000	Yes, 1.76 mills $528,000	No	No	15 Mill Max Home Rule City	15.3534
PETOSKEY	33.9	Yes	$410,735	Yes, 3.8580 mills $1,584,616	No	No	Yes	13.606
CHARLEVOIX	25	No	$240,000	Yes, 2 mills infrastructure, 1 mill streets	No	No	15 Mill Max Home Rule City	12.0093

Community	Total Miles of Streets	Street Asset Mgmt. Plan	Mill $	Voted Street Millage	General Fund Contribution Toward Street Maintenance	Use of Special Assessment	Are You a 20 Mill Max Home Rule City	Total Mills Levied
South Haven	37	No, rates streets every two years	$367,000	Yes, 20 year .6282 $230,000 Van Buren County street millage .9769 mills	Yes, DDA and LDFA funds	No	15 Mill Max	14.2371
Holland	149	Yes	$990,000	Yes, .5 mill $500,000	No	No	Yes	15.1085
Grand Haven	59.31	No, has a separate plan	$500,000	Yes, 1 mill, 20 years for infrastructure	Yes, .6 General Obligation mills $300,000	No	15 Mill Max Home Rule City	14.1 (1.84880 MSDDA)
St. Joseph	43	No	$400,000	No	1 mill dedicated to street improvements $400,000	No	Yes	16.5344
Cadillac	63.30	No	$250,000	No	Yes, $425,000 to Local Street	Yes, 10+ years ago to upgrade from gravel	15 Mill Max	17.0473 (1.9548 DDA)
Sturgis	51	Yes	$260,000	3 mills for 10 years, 1 mill reimbursed from county-wide millage	2013 $690,000 2014 $0	No	No	13.0285
Grosse Pointe	19	Yes	$300,000	No	$250,000 per year from Capital Projects Fund	No	Yes	13.6146 (includes .6989 for pool rep)
Lowell	20.28	No	$86,924	No	Yes, $190,000	No	Yes	15.70
Clare	22.59	No	$67,000	Yes, ¾ mill	07/08 - $92,000 08/09 - $80,000 09/10 - $125,000 10/11 - $95,000	Yes, 20 mill HRC	Yes	17.5

COMMUNITY	TOTAL MILES OF STREETS	STREET ASSET MGMT. PLAN	MILL $	VOTED STREET MILLAGE	GENERAL FUND CONTRIBUTION TOWARD STREET MAINTENANCE	USE OF SPECIAL ASSESSMENT	ARE YOU A 20 MILL MAX HOME RULE CITY	TOTAL MILLS LEVIED
					11/12 - $20,000			
ROSEVILLE	129.01 26.41 Major 102.60 Local	Yes	$852,274	No	No	No	Yes	18.6992
DUNDEE	23.99	Yes	$162,000	Yes, 2.8889	No	Yes	No - GLV	9.811
MUSKEGON	188.34	Yes	$570,000	No	$550,000 annually	No	No	12.0865
KALKASKA	18.88	No, rates streets every 2 years	$101,055	No vote required-levied 1.75 mills in 2013	No	No	No - GLV	14.75 (1 mill to DDA)
FRASER	42	Yes	0	0	0	Occasionally	Yes	18.3846
MIDDLEVILLE	17.22	No, but has Paser ratings for all streets	$185,351	No vote required –levied 2.0 mills in 2013	Yes, $100,000 in 2013 plus $300,000 in bond funds	No	No - GLV	12.5
PORTLAND	24.71	Yes	$77,975	No vote required –levied 1.0 Mills in 2013	No, City has an income tax which it dedicates to street improvements.	Partial – ½ of asphalt & base costs to upgrade from gravel.	15 Mill Max	13.6574
DEWITT	22.15	Yes	$200,000	No	Yes, $125,000 annually	No	Yes	13
PAW PAW	21.92	Not yet	$382,245	Yes, voted at 5 mills, now at 4.529 mills	None	Yes	GLV	15.8551 with 11.3252 general, rest street

Peer Tax Burdens

- Benchmark survey done in Nov\Dec 2013
- Asked about relative millage rates
  - Local
  - County
  - School
- Millage rates are only part of the story
  - What services are being provided
  - What is the community's tax base
  - What is the average home value

Local Millage / Tax Burden

Millage	Manistee	Ludington	Boyne City	South Haven	Grand Haven	Northville	Cadillac	Petoskey	Charlevoix
General Operating	17.2957	11.5675		10.2860	10.4814	13.5864		7.6707	9.0500
Refuse	1.1500	2.7762		1.2000	0	0		.4890	.9000
Public Safety Pension	0	1.1501		0	0	0		0	0
Streets	0	0		1.5813	0	1.7670		3.8580	0
Library	0	0		.5900	0	1.3913		1.8141	0
Drug Enforcement	0	0		.6798	0	0		0	0
Public Transportation	0	0		0	0	0		0	0
Comm Ctr/Museum/Arts	0	0		0	1.0300	DIA .2000		0	0
Infrastructure Debt	0	0		0	1.0000	0		0	2.0593
Public Improvements	0	0		0	.7500	0		0	0
Invasive Species	0	0		0	0	0		0	0
DDA	0	0		0	1.8448	1.8255		0	1.3631
Parks / Recreation / Fire Authority	0	Fire .3000		0	County .3165	Wayne .2459 Metro .2146		0	.3271
Zoo		0		0	0	.1000		0	0
Total City Millage:	**18.4457**	**15.7938**		**14.3371**	**15.4227**	**19.3307**		**13.8318**	**13.6995**
County Operating	5.500	5.6797		4.4719	3.600	6.6380		4.8500	4.7000
County Ambulance	0	0		.9402	0	0		.2500	0
County Roads	0	0		.9769	0	0		0	1.0000
Library	1.000	.4947		0	1.0988	0		.4700	1.8179
Medical Care Facility	.5000	.9715		.3305	0	0		0	.1750
911 / Recycling	.8000	0		.5351	.4400	.9381		0	.1500
Transportation	.3276	1.0000		.2480	.6000	0		0	.2500
Council on Aging	.3000	.2500		.2500	.2497	0		.5000	.6000
Total County Millage	**8.4276**	**8.3959**		**7.7526**	**5.9885**	**7.5761**		**6.0700**	**8.6929**
ISD	2.3000	3.5720		5.9728	5.5234	3.4643		2.7781	2.7813
Community College	3.0907	3.0907		1.7854	0	1.7967		2.3800	0
SET	6.0000	6.0000		6.0000	6.0000	6.0000		6.0000	6.0000
School Debt	2.3800	1.8900		3.2500	3.7000	5.3000		3.6200	2.9150
Total School Millage:	**13.7707**	**14.5527**		**17.0082**	**15.2234**	**16.5610**		**14.7781**	**11.6963**
Total PRE Rate	**40.6440**	**38.7424**		**39.0979**	**36.6346**	**43.4678**		**34.6799**	**34.0887**

General Fund Breakdown

Breakdown / Percentage of General Fund									
Department	Manistee	Ludington	Boyne City	South Haven	Grand Haven	Northville	Cadillac	Petoskey	Charlevoix
Public Safety	30%	25.6%		45%	36%	53%		36.42%	46%
DPW/Parks	24%	13.8%		26%	29%	11%		34.93%	34%
Other	33%	55.7%		29%	35%	36%		28.7%	20%
Debt Service	13%	4.9%		0%	0%	0%		0%	0%

- General fund comparisons can be tricky
  - Manistee records GO Debt in General Fund; some communities use a debt service fund
  - Mix of services can be different, or accounted for in a different fund
  - Shared costs may be allocated differently

Street Funding Options for Manistee
(In addition to Street funds)

- Grants
- General Fund Allocation
  - fund balance or annual appropriation
- Special Assessment
- Levy millage below Headlee Cap .4655
  - $88,000
- Headlee Override 2.2388
  - $425,000

Funding Options for Manistee
(In addition to Street funds)

- Voted Bond Debt (Millage)
- Capital Improvement Fund
  - $290,000 committed next four years, drops off to $220,000 after that thru 2026-2027
  - Unobligated CIF:
    - $50K Years 1-3; $90K Year 4; $120K Years 6-10
  - No other projects could be funded
- Oil & Gas Fund
  - override spending rule to tap “excess earnings”

Takeaways

- City has sophisticated & award-winning Street Asset Management program
- Streets have improved over last five years
- Streets compare favorably with peer communities
- Investment level last five years is not sustainable
  - 2012 was high point in network condition
- Opportunity for preventive maintenance is large, but time window is closing
- Additional funding sources needed to maintain and\or improve network.

Outline

- Review of City's Program
- What is Street Asset Management
- What has been Accomplished
- Current Condition of Streets
- What Level of Investment is Needed
- How do other Communities Fund Streets
- Process Moving Forward

Next Steps

- 2014 Strategic Plan
- 2014-2015 Budget
- 2014 Construction Season

Questions